DASH NO.	APPLICATION		REVISIONS			
	NEXT ASSY	USED ON	REV	DESCRIPTION	DATE	APPROVED
			Pre	PRELIMINARY ISSUE	1-12-2005	DL
			D	Bandwidth correction	3-5-2007	EH

THIS DRAWING INCOMPLETE WITHOUT ECN'S
None

AWID PROPRIETARY INFORMATION

ALL PAGES ARE ON ORIGINAL ISSUE (-) EXCEPT AS NOTED	CONTRRACT NO:		APPLIED WIRELESS ID Applied Wireless Identifications Monsey, NY USA			
	ISSUED	DATE				
	PREP BY: V. LTV					
	CHK BY:		**Design Specification for ANT-2010CP -- Serial Interface Reader**			
	REVIEW:					
	ENGR (PROJ):					
			SIZE A	**FSCM NO.**	DWG NO. 041233	**REV** D
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	APPVL: D Lee		SCALE			

Revision Records:
Enter all revision records by stating "Paragraph Numbers," revision "From" and "To", "Revision Level" and "Time of Revision."
Rev D:
4.1.5 Changed "+/- 75 MHz" to "+/- 54 MHz", document control# in footer corrected, March 5, 2007

1.0 Scope

This specification describes the electrical, mechanical and environmental requirements for circular polarized UHF antenna, designed to work in conjunction with MPR-2010A or MPR-2010B series of UHF RFID readers.

2.0 Applicable Documents

The following documents of the exact issue shown, form a part of this specification to the extent specified herein. In the event of conflict between this document and the documents referenced herein, the contents of this document shall prevail.

Specifications

Handbooks

Mil-HDBK-217E	Reliability Prediction for Electronic Equipment

Standards

ISO-18000-6A/B	ISO/IEC FCD 18000-6 (ISO/IEC JTC 1/SC 31/WG 4/SG 3)
EPC C1 & C0	EPC™ Tag Data Standards Version 1.1 Rev.1.22
EPC C1G2	EPC RFID Protocols Class-1 Generation-2 UHF RFID, V1.0.1
EPC 1.19	UCODE V1.19 (SL31C31 01) Functional Specification
Matrics	Class 0 Tag “Write” Module Design Specification V1.1
Impinj	Zuma (TBD)

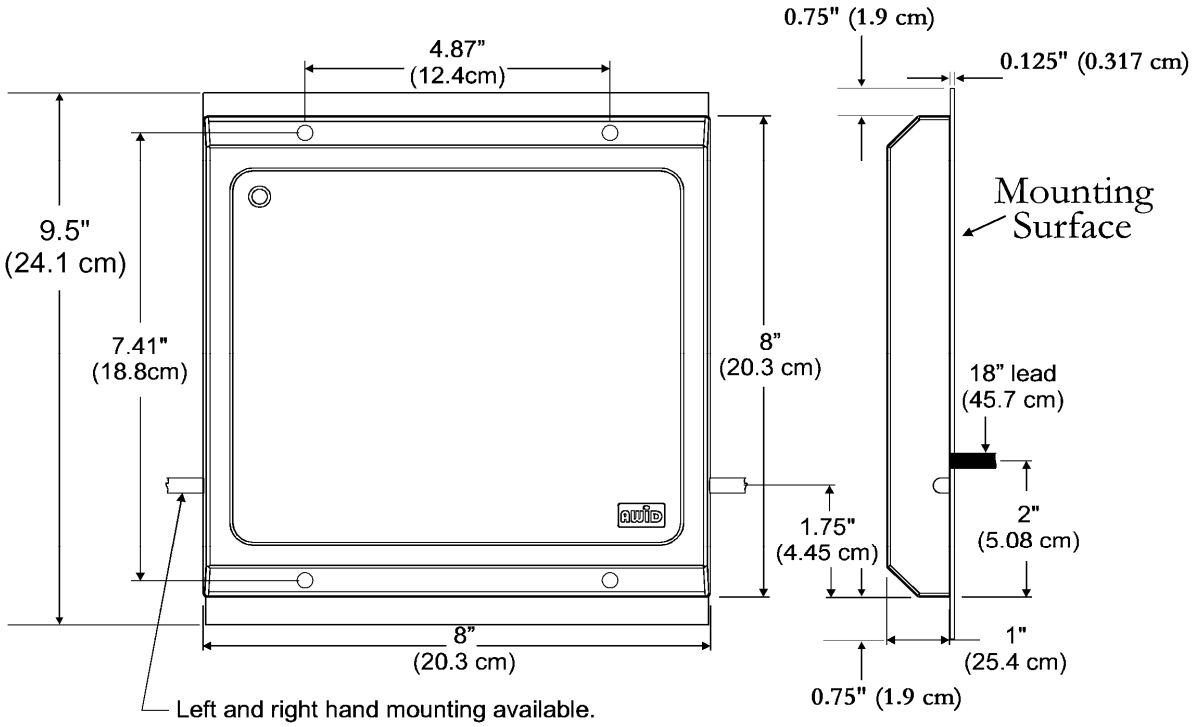
3.0 Requirements

This RFID module shall transmit a CW or command signals to activate RFID tags in its zone of surveillance and this RFID module shall also decoded the backscattered signal from RFID tags.

3.1 Common Requirements

3.1.1 Form factor

The outline dimensions of the RFID antenna is shown in the photo and Figure 1 is the mechanical dimension details of the antenna unit. The antenna unit shall measured 8x9.5x1.0 inches.



Note: remove cables and add SMA antenna

Figure 1, Mechanical Dimensions

3.1.2 Weight

This RFID module shall weigh less than 24 oz. (0.7 kg)

3.1.3 Power Supply and Consumption

N/A

3.1.4 Multi-protocol operations

Protocol agnostic.

3.2 Environmental Characteristics

3.2.1 General

This RFID module is intended for use in a fixed and/or mobile environment.

3.2.2 Cooling

Not required.

3.2.3 Temperature Change

-35 ºC to +70 ºC

3.2.4 Humidity

The RFID module shall withstand the following humidity extremes:

Minimum -- 0% RH
Maximum -- 95% RH

3.2.5 **Random Vibration --** TBD

3.2.6 **Shock --** TBD

3.3 Electromagnetic Compatibility

TBD

3.4 Reliability Requirement

3.4.1 **Component Selection --** TBD

3.4.2 **De-Rating --** AWID's component de-rating guide.

3.4.3 MTBF TBD
Ground, Sheltered Benign

4.0 Antenna Electrical Specification

4.1 Frequency Characteristics

4.1.1 **Operating Frequency --** 902 to 928 MHz center frequency

4.1.2 **Gain --** 5.08 dB typical, 5.59 dB maximum

4.1.3 **VSWR –** 1.2:1 from 902 to 928 MHz

4.1.4 **3-dB Pattern --** +/- 33º of free space pattern

4.1.5 **3-dB Bandwidth --** +/- 54 MHz

4.1.6 **Polarization --** Right hand or Left hand pattern

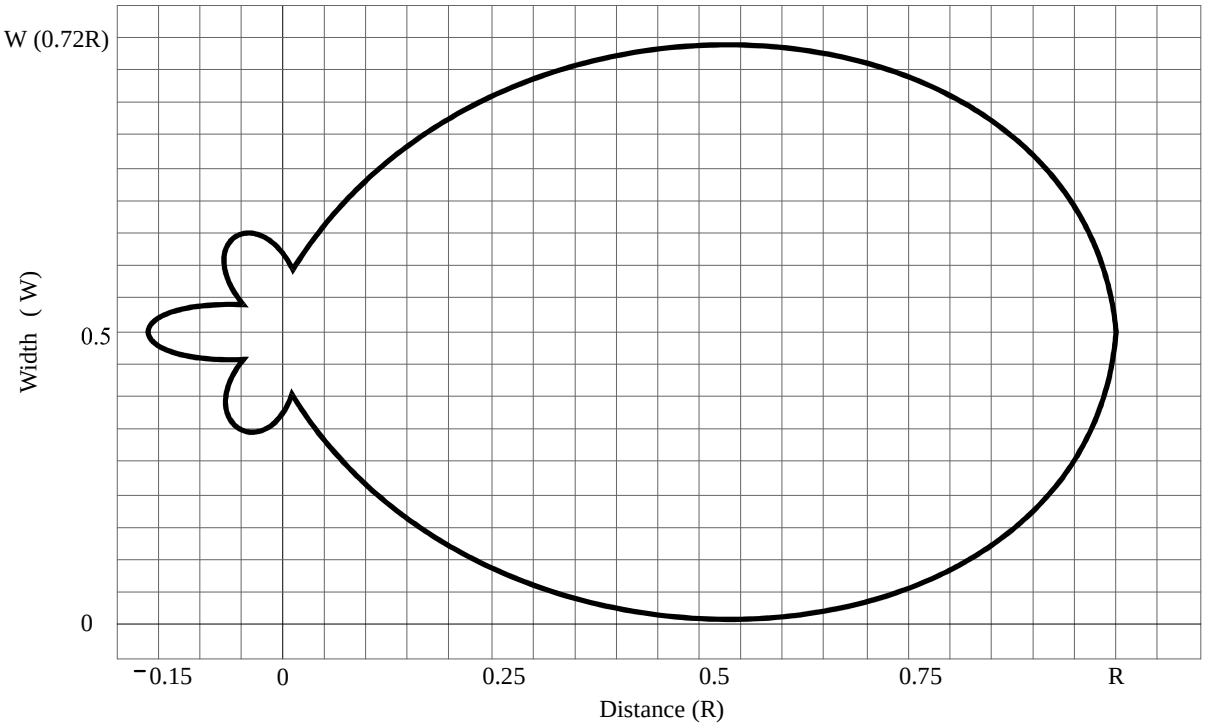
4.1.7 **H/V Differential --** 0.5 dB

4.1.8 **Front/Back Ratio --** 15 dB

4.1.9 **Power Capability --** 5 Watts max.

4.1.10 **Regional Code --**
US – 902 to 928 MHz
China – 917 MHz (experimental)
Taiwan – 922 to 928 MHz
Singapore – 923 to 925 MHz
Koera (FHS) – 910 to 914 MHz
Korea (LBT) – 908.5 to 914 MHz
Australia – 918 to 926 MHz

4.1.11 Radiation Pattern -- See Figure 2



4.2 Interface with External Systems

4.2.1 **Input Connector --** SMA (Reverse sex)

5.0 Marking

Antenna shall be market with part number, hardware revision level and serial number.

6.0 **Configuration Control**