

AN720 RFID Antennas

Assembly and Installation Instructions



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72E-132076-03

Rev A

March 2015

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Zebra Technologies Corporation
Lincolnshire, IL U.S.A.
<http://www.zebra.com>

Warranty

For the complete Zebra hardware product warranty statement, go to:
<http://www.zebra.com/warranty>.

Revision History

Changes to the original manual are listed below:

Change	Date	Description
-01 Rev A	11/2009	Initial release.
-02 Rev A	9/2014	Update web addresses and WEEE statement.
-03 Rev A	3/2015	Zebra re-branding

About This Guide

Introduction

This guide provides assembly and installation instructions for the AN720 RFID antennas.

Service Information

If you have a problem with your equipment, contact Zebra Support for your region. Contact information is available at: <http://www.zebra.com/support>.

When contacting Solutions Support, please have the following information available:

- Serial number of the unit
 - Scanner serial numbers are located on the label under the top of the scanner
 - Cradles serial numbers are located on the label on the bottom of the cradle
- Model number or product name
 - Scanner model numbers are located on the label under the top of the scanner
 - Cradle model numbers are located on the label on the bottom of the cradle
- Software type and version number

Zebra responds to calls by E-mail, telephone or fax within the time limits set forth in support agreements.

If your problem cannot be solved by Zebra Support, you may need to return your equipment for servicing and will be given specific directions. Zebra is not responsible for any damages incurred during shipment if the approved shipping container is not used. Shipping the units improperly can possibly void the warranty.

If you purchased your Zebra business product from a Zebra business partner, contact that business partner for support.

Chapter 1 AN720 RFID Antennas Diagrams and Technical Specifications

Introduction

Read all instructions carefully before attempting to install and use this product.

Safety

The antennas should be mounted permanently and securely on a mounting panel in accordance with all installation instructions.

Location

For best results, point the antenna towards the center of the coverage area. A line-of-sight path between the antenna and active floor locations works best. Although signals in these bands penetrate interior walls with little attenuation, reinforced block walls, banks of metal cabinets, or steel shelving may attenuate signals or cause multipath, a condition where reflected signals interfere with the primary signal path. Avoid mounting next to a column or vertical support that could create a “shadow zone” of reduced coverage.

Mounting

The AN720 antennas radiate a circularly polarized signal in a directional pattern. Securely mount the antenna to a metal plate using the appropriate size nuts and locking hardware.

Antenna Diagrams

Antenna Front View

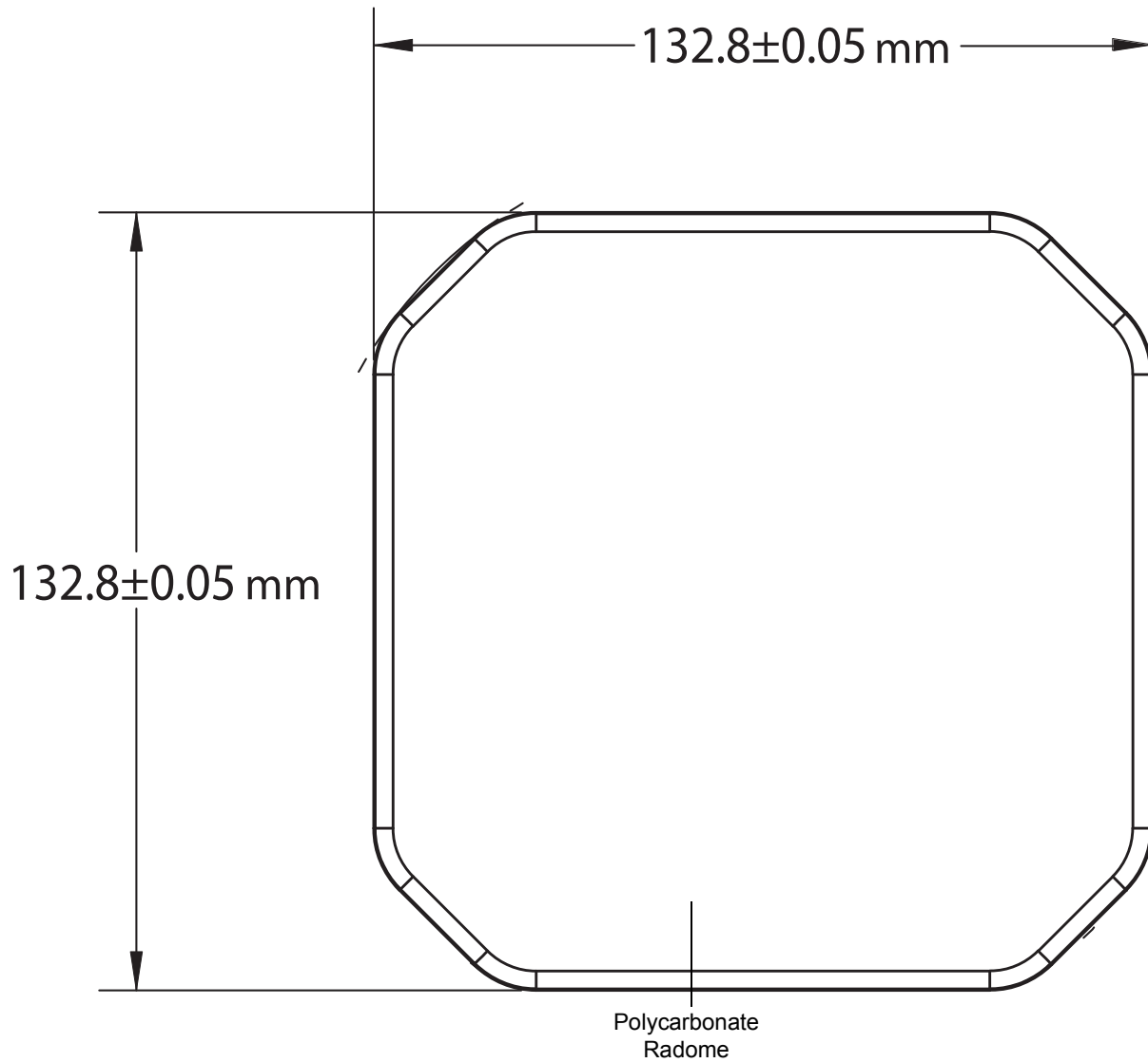
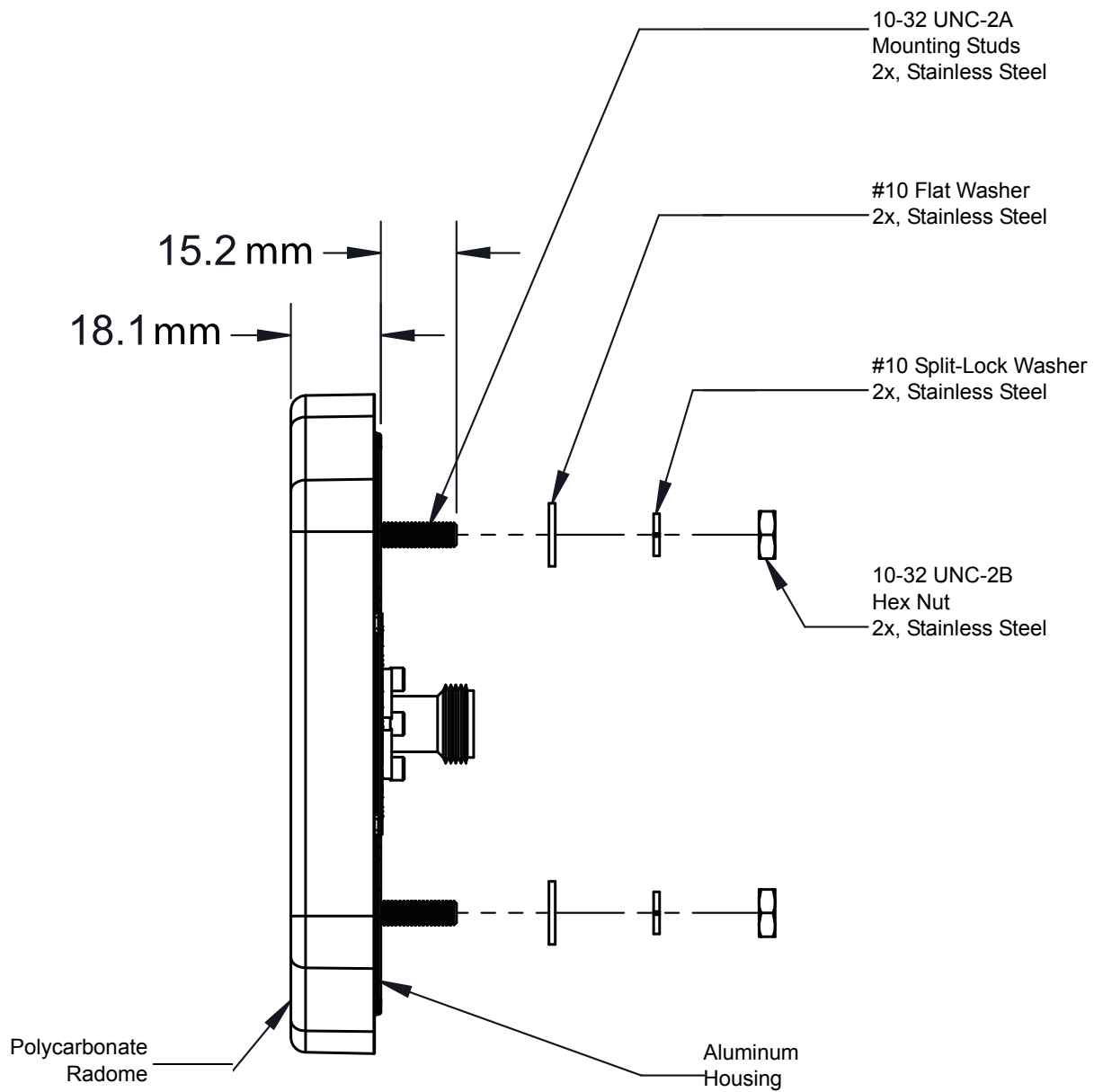


Figure 1-1 *Antenna Front View*

Antenna Side View**Figure 1-2** *Antenna Side View*

Bottom View

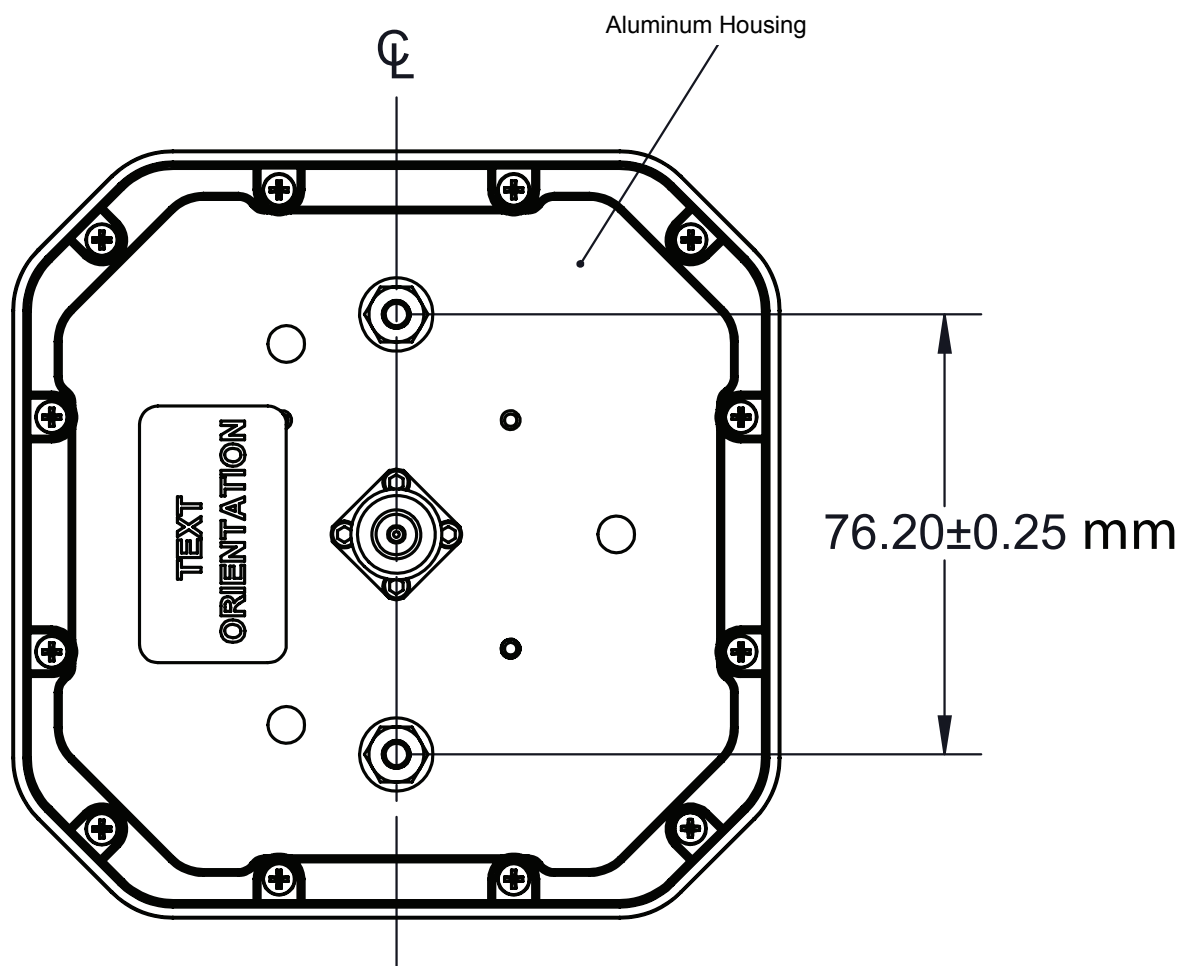


Figure 1-3 Antenna Bottom View

Wall Mount Configuration

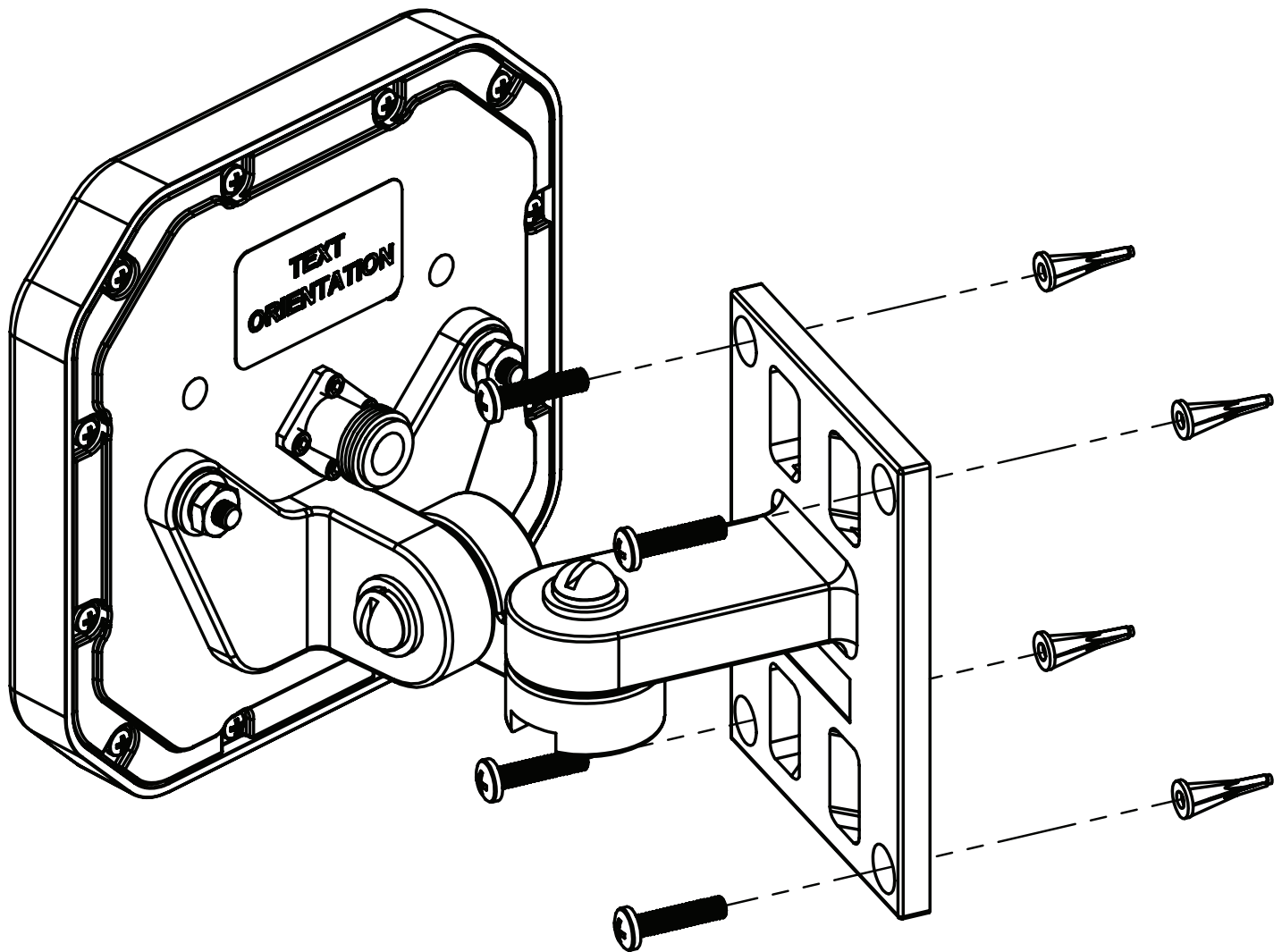


Figure 1-4 Wall Mount Configuration

Pole Mount Configuration

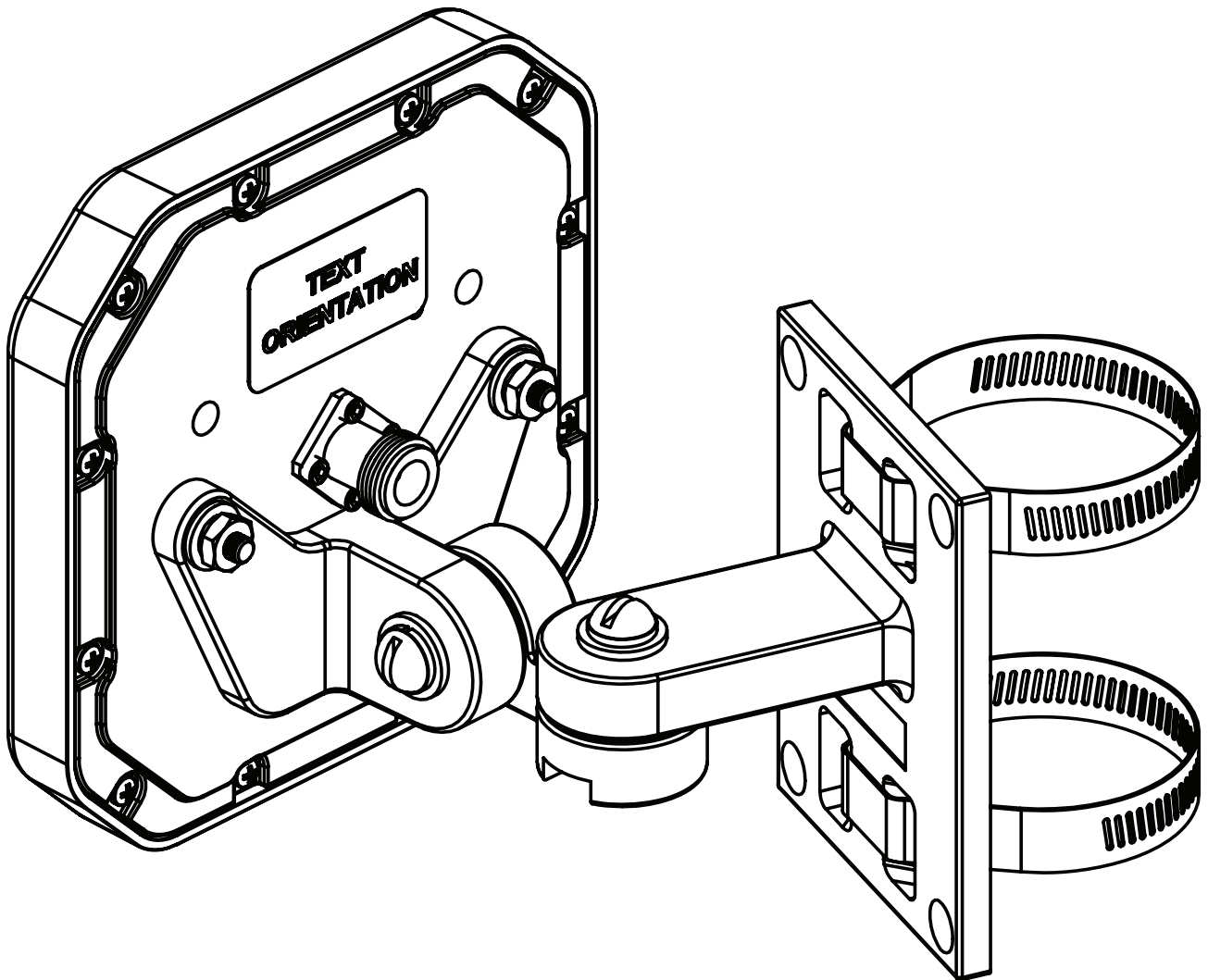


Figure 1-5 Pole Mount Configuration

Technical Specifications

AN720-L51NF00WUS

Table 1-1 AN720-L51NF00WUS Product Specifications

Item	Description
Model	AN720
Zebra Part Number	AN720-L51NF00WUS
Connector	N-Type, female
Frequency, MHz	902-928
Gain	5.5 dBic typical, 6 dBic max
VSWR	1.5:1
F/B	8 dB
Normal Impedance	50 Ω
Beam width	100°
Polarization	Circular (L) left
Antenna Weight	0.37kg (S/B .8 lbs)
Power, watts	10
Axial Ratio	2 dB
Mounting	2 threaded studs (rack mount)
Dimensions, mm (in)	132.8 mm x 132.8 mm x 18.1 mm (5.2 in x 5.2 in x 0.7 in)
Temperature Operational	-30°C to +70°C (-22°F to 158°F)
Storage Temperature	40°C to 85°C (104°F to 185°F)
Impact Resistance	0.46kg (1 lb.) Ball Drop, 24 in
Vibration	MIL-STD-810
Shock	IEC 68-2-27
Humidity	IEC 68-2-30
Lightning Protection	DC Grounded
Enclosure Rating	IP 67

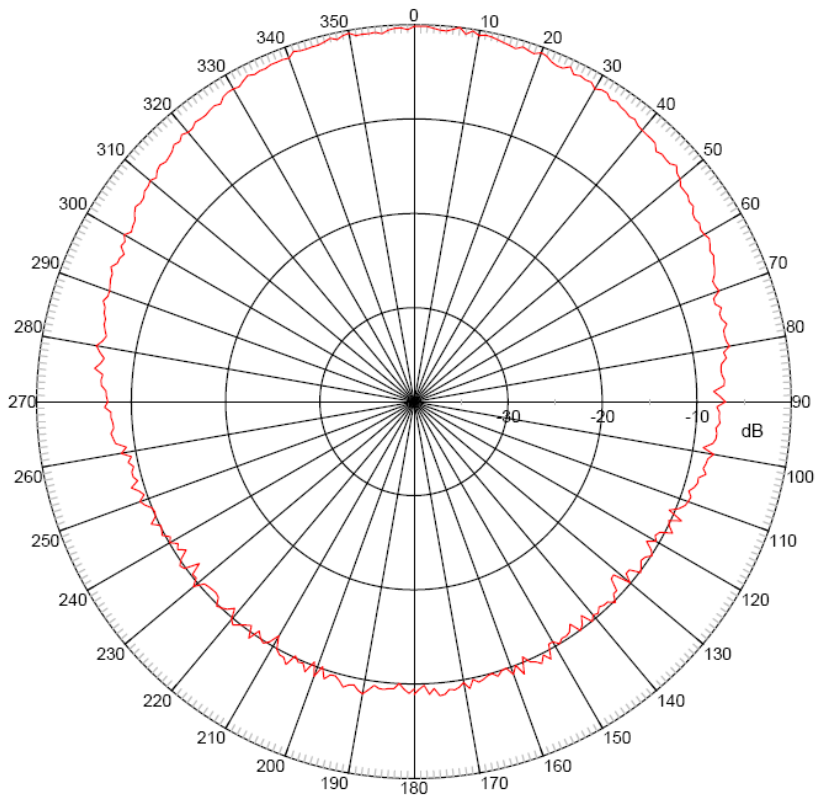


Figure 1-6 AN720 US Radiation Plots - 915MHz

AN720-L51NF00WEU**Table 1-2** AN720-L51NF00WEU Product Specifications

Item	Description
Model	AN720
Zebra Part Number	AN720-L51NF00WEU
Connector	N-Type, female
Frequency, MHz	865-868
Gain	5.5 dBic typical, 6 dBic max
VSWR	1.5:1
F/B	8 dB
Normal Impedance	50 Ω
Beam width	100°
Polarization	Circular (L) left
Antenna Weight	0.37kg (S/B .8 lbs)
Power, watts	10
Axial Ratio	2 dB
Mounting	2 threaded studs (rack mount)
Dimensions, mm (in)	132.8 mm x 132.8 mm x 18.1 mm (5.2 in x 5.2 in x 0.7 in)
Temperature Operational	-30°C to +70°C (-22°F to 158°F)
Storage Temperature	40°C to 85°C (104°F to 185°F)
Impact Resistance	0.46kg (1 lb.) Ball Drop, 24 in
Vibration	MIL-STD-810
Shock	IEC 68-2-27
Humidity	IEC 68-2-30
Lightning Protection	DC Grounded
Enclosure Rating	IP 67

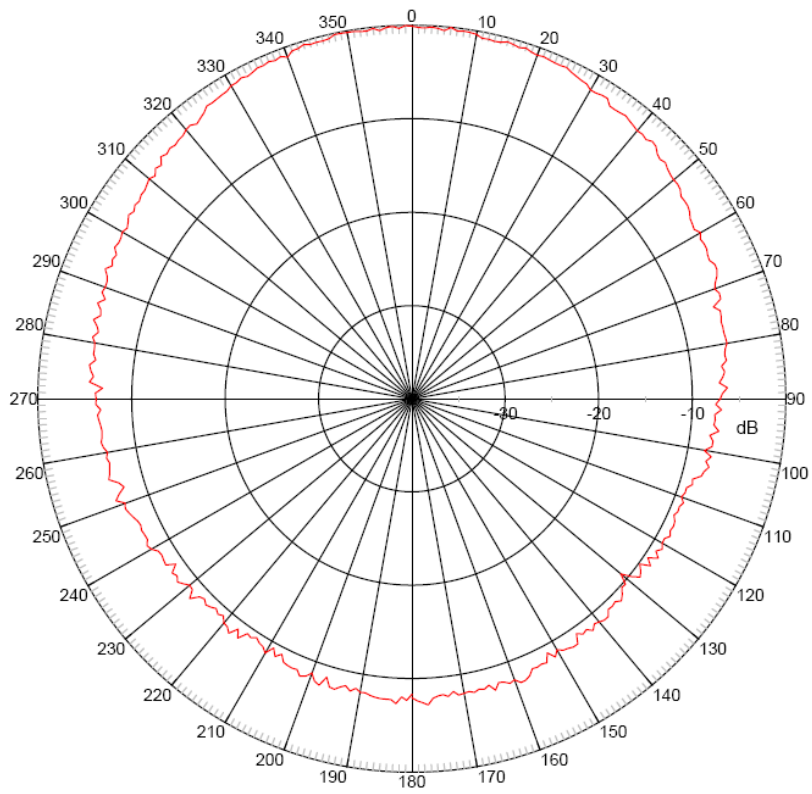


Figure 1-7 AN720 EU Radiation Plots - 867.5MHz



Waste Electrical and Electronic Equipment (WEEE)

Bulgarian: За клиенти от ЕС: След края на полезния им живот всички продукти трябва да се връщат на Zebra за рециклиране. За информация относно връщането на продукти, моля отидете на адрес <http://www.zebra.com/weee>.

Čeština: Pro zákazníky z EU: Všechny produkty je nutné po skončení jejich životnosti vrátit společnosti Zebra k recyklaci. Informace o způsobu vrácení produktu najdete na webové stránce: <http://www.zebra.com/weee>.

Dansk: Til kunder i EU: Alle produkter skal returneres til Zebra til recirkulering, når de er udtjent. Læs oplysningerne om returnering af produkter på: <http://www.zebra.com/weee>.

Deutsch: Für Kunden innerhalb der EU: Alle Produkte müssen am Ende ihrer Lebensdauer zum Recycling an Zebra zurückgesandt werden. Informationen zur Rücksendung von Produkten finden Sie unter <http://www.zebra.com/weee>.

Ελληνικά: Για πελάτες στην Ε.Ε.: Όλα τα προϊόντα, στο τέλος της διάρκειας ζωής τους, πρέπει να επιστράφονται στην Zebra για ανακύκλωση. Για περισσότερες πληροφορίες σχετικά με την επιστροφή ενός προϊόντος, επισκεφθείτε τη διεύθυνση <http://www.zebra.com/weee> στο Διαδίκτυο.

English: For EU Customers: All products at the end of their life must be returned to Zebra for recycling. For information on how to return product, please go to: <http://www.zebra.com/weee>.

Español: Para clientes en la Unión Europea: todos los productos deberán entregarse a Zebra al final de su ciclo de vida para que sean reciclados. Si desea más información sobre cómo devolver un producto, visite: <http://www.zebra.com/weee>.

Eesti: EL klientidele: kõik tooted tuleb nende eluea lõppedes tagastada taaskasutamise eesmärgil Zebra'ile. Lisainformatsiooni saamiseks toote tagastamise kohta külastage palun aadressi: <http://www.zebra.com/weee>.

Suomi: Asiakkaita Euroopan unionin alueella: Kaikki tuotteet on palautettava kierrätettäväksi Zebra-yhtiöön, kun tuotetta ei enää käytetä. Lisätietoja tuotteen palauttamisesta on osoitteessa <http://www.zebra.com/weee>.

Français : Clients de l'Union Européenne : Tous les produits en fin de cycle de vie doivent être retournés à Zebra pour recyclage. Pour de plus amples informations sur le retour de produits, consultez : <http://www.zebra.com/weee>.

Magyar: Az EU-ban vásárlóknak: Minden tönkrement terméket a Zebra vállalatához kell eljuttatni újrahasznosítás céljából. A termék visszajuttatásának módjával kapcsolatos tudnivalókért látogasson el a <http://www.zebra.com/weee>.

Italiano: per i clienti dell'UE: tutti i prodotti che sono giunti al termine del rispettivo ciclo di vita devono essere restituiti a Zebra al fine di consentirne il riciclaggio. Per informazioni sulle modalità di restituzione, visitare il seguente sito Web: <http://www.zebra.com/weee>.

Lietuvių: ES vartotojams: visi gaminiai, pasibaigus jų eksploatacijos laikui, turi būti grąžinti utilizuoti į kompaniją „Zebra“. Daugiau informacijos, kaip grąžinti gaminį, rasite: <http://www.zebra.com/weee>.

Latviešu: ES klientiem: visi produkti pēc to kalpošanas mūža beigām ir jānogādā atpakaļ Zebra otrreizējai pārstrādei. Lai iegūtu informāciju par produktu nogādāšanu Zebra, lūdzu, skatiet: <http://www.zebra.com/weee>.

Malti: Għal klijenti fl-UE: il-prodotti kollha li jkunu waslu fl-aħħar tal-ħajja ta' l-użu tagħhom, iridu jiġu rritornati għand Zebra għar-riċiklaġġ. Għal aktar tagħrif dwar kif għandek tirritorna l-prodott, jekk jogħġbok żur: <http://www.zebra.com/weee>.

Nederlands: Voor klanten in de EU: alle producten dienen aan het einde van hun levensduur naar Zebra te worden teruggezonden voor recycling. Raadpleeg <http://www.zebra.com/weee> voor meer informatie over het terugzenden van producten.

Polski: Klienci z obszaru Unii Europejskiej: Produkty wycofane z eksploatacji należy zwrócić do firmy Zebra w celu ich utylizacji. Informacje na temat zwrotu produktów znajdują się na stronie internetowej <http://www.zebra.com/weee>.

Português: Para clientes da UE: todos os produtos no fim de vida devem ser devolvidos à Zebra para reciclagem. Para obter informações sobre como devolver o produto, visite: <http://www.zebra.com/weee>.

Românesc: Pentru clienții din UE: Toate produsele, la sfârșitul duratei lor de funcționare, trebuie returnate la Zebra pentru reciclare. Pentru informații despre returnarea produsului, accesați: <http://www.zebra.com/weee>.

Slovenčina: Pre zákazníkov z krajín EU: Všetky výrobky musia byť po uplynutí doby ich životnosti vrátené spoločnosti Zebra na recykláciu. Bližšie informácie o vrátení výrobkov nájdete na: <http://www.zebra.com/weee>.

Slovenski: Za kupce v EU: vsi izdelki se morajo po poteku življenjske dobe vrniti podjetju Zebra za reciklažo. Za informacije o vračilu izdelka obiščite: <http://www.zebra.com/weee>.

Svenska: För kunder inom EU: Alla produkter som uppnått sin livslängd måste returneras till Zebra för återvinning. Information om hur du returnerar produkten finns på <http://www.zebra.com/weee>.

Türkçe: AB Müşterileri için: Kullanım süresi dolan tüm ürünler geri dönüşürme için Zebra'ya iade edilmelidir. Ürünlerin nasıl iade edileceği hakkında bilgi için lütfen şu adresi ziyaret edin: <http://www.zebra.com/weee>.



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