BLUEBIRD

Fixed RFID Reader

FR900

Sleek, Refined Design

- Sleek, compact, and sophisticated design
- Fits well in any corporate office or public environment such as a retail store or hospital
- Compact form factor: 253 x 254 x 56 mm

Perfect Accuracy

- Dense Reader Mode provides high accuracy and prevents reader-to-reader interference
- High accuracy even in applications with metal and liquid
- EPC Class-1 Gen-2 V2 compliant

Durable in Rough Environment

- Performs in dusty environments with IP53 sealing

Low-Cost and Easy Deployment

- Power-over-Ethernet (PoE and PoE+) allows flexible, low cost, single-cable installation
- Easy to install in tight spaces

One Reader, Multiple Antennas

- One reader connects up to 8 antennas
- Flexible and cost-effective modular solution

High Speed Processor & Linux

- Powerful processor and flash memory
- Linux OS

- **PoE INSTALLATION**
- **COST-EFFECTIVE**
- **LESS CABLE CLUTTER**

- **EASY TO USE**
- **EASY TO DEPLOY**

- **PERFECT ACCURACY**

FR900 Applications

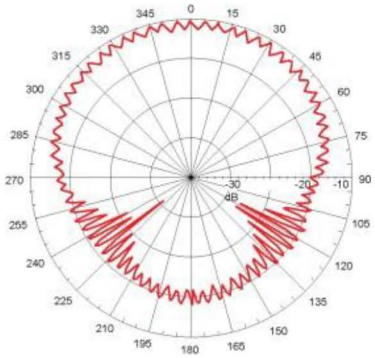
- Personnel Tracking
- Real-Time Inventory
- Anti-Theft Sensing
- Drug Management
- Asset Management
- Inventory Management
- Patient Monitoring

Product Overview

FR900

FR900 Antennas' Radiation Patterns

AN950



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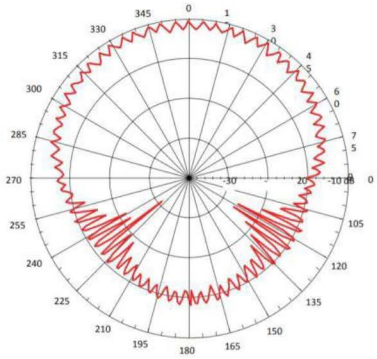
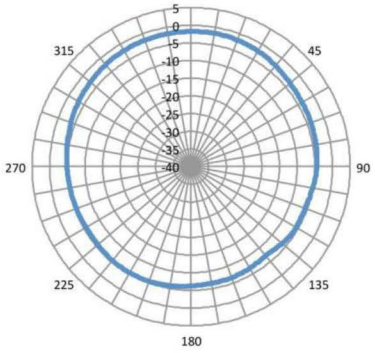


ETSI

ANS950



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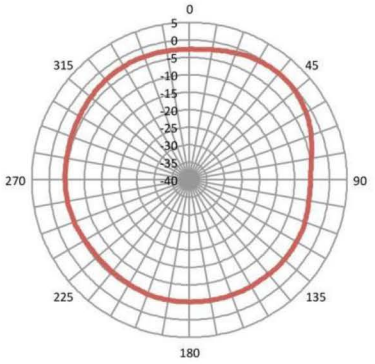
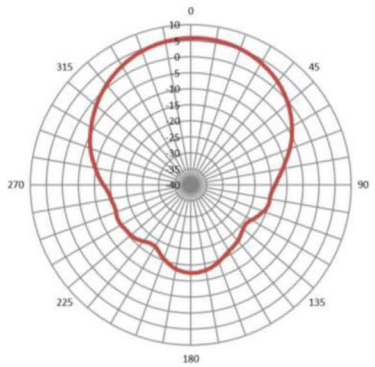


FCC (Horizontal)

AN970



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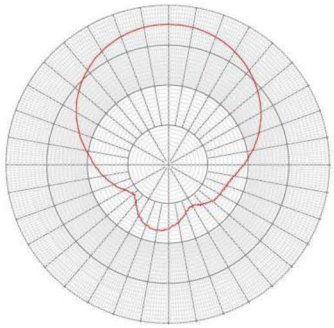
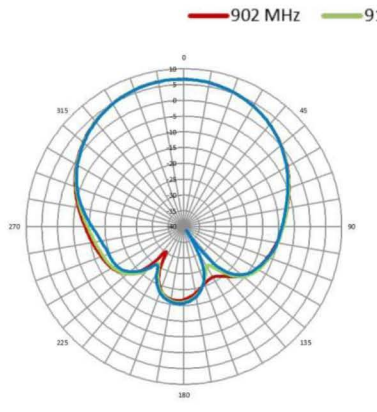
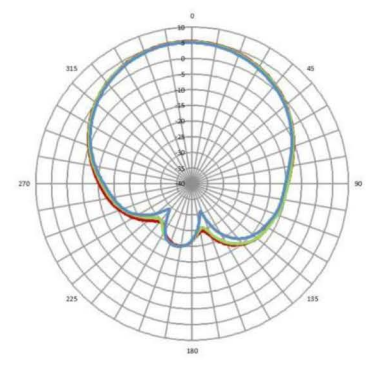


ETSI

AN971



FCC(LHCP)



FCC(RHCP)

Bluebird Inc. (Corporate Headquarters)

3F, 115, Irwon ro, Gangnam gu, Seoul, Republic of Korea, Postal#06355 Phone. +82-1577-0778Fax.+82.2.6499.2242

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Product Overview

FR900

FR900 Antennas

PRODUCT NAME	AN950	ANS950	AN970	AN971
Concept	- Mid Performance& Compact - Compact indoor/outdoor antenna for customer-facing environments	- Mid Performance &Slim - Sleek, Discreet, Rugged	- High Performance & General Purpose - Global flexibility for all enterprises	- High Performance & Large Area
Used For	Warehouse - StocksTransition (Fork lift) - Conveyors Retail Back-room - Inventory Management - Gates	Sales-room - DisplayShelves (wall, ceiling) - DisplayHangers Fitting-room (wall, ceiling)	Warehouse - Portals, Outdoor gates Retail Back-room - Inventory Management - Gates	Warehouse - Portals, Outdoor gates Retail Back-room - Inventory Management - Gates

PRODUCT NAME	AN950	ANS950	AN970	AN971
PHYSICAL				
Dimensions (L x W x D)	132x 132x 18mm 5.2 x 5.2 x 0.7in.	74 x 74 x 9.5mm 2.9 x 2.9 x 0.4in.	259 x 259 x 33.5mm 10.2x 10.2x 1.3in.	259 x 575 x 33.5mm 10.2x 22.6x 1.3in.
Connectors	Type N, SMA RP-TNC,RP-SMA (Female)	MCX	Coax Pigtail, Rev TNC Male (others available)	N-type Female 2x or Configurable
MountingBracket	VESA support	VESA support	VESA support	VESA support
Weight	0.37 Kg / 0.82lb	0.6 kg / 1.32lb	1.0Kg / 2.2lb	1.9kg / 4.2lb(Laird)
Casing	Aluminium with white plastic cover	Superior Kydex	Aluminium with white plastic cover	UV Stable ASA, White
OPERATIONAL				
Frequency Range	865MHz ~868MHz/ 902 ~928MHz	865MHz ~868MHz/ 902 ~928MHz	865MHz ~868MHz/ 902 ~928MHz	865MHz ~868MHz/ 902 ~928MHz
Gain	8.5dBic	2 dBic	9 dBic	9 dBic
VSWR (Return Loss)	1.5:1	1.4:1	1.3:1	1.4:1
Front to Back Ratio	8 dB	4 dB	20 dB	20 dB
Polarization	LHCP OR RHCP	LHCP OR RHCP	LHCP OR RHCP	1x LHCP and 1xRHCP
3db Beam Width	100°	120° x 120°	70°	70°
Max InputPower	10W	6 W	10W	10W
Axial Ratio	2dB typical	2 dB typical	1dB typical	1dB typical
ENVIRONMENTAL				
Operating Temperatures	-30° C to +70° C / -13° F to +158°F	-30° C to +65° C / -22° F to +149°F	-25° C to +70° C/ -13° F to +158°F	-25°C to +70°C/ -13°F to +158°F
Sealing	IP67	IP54	IP54	IP67
Storage Temperatures	-40°C to +85°C/ -40°F to +185°F	-40°C to +70°C/ -40°F to +158°F	-40°C to +70°C/ -40°F to +158°F	-40°C to +85°C/ -40°F to +185°F
Vibration	MIL-STD-810	MIL-STD-810	IEC-68 series	IEC-68-2-6 (10 to 150 Hz, 0.5g, one hour in each of two axes) (Random Vibration)
Humidity	IEC-68-2-30	IEC-68-2-30	IEC-68-2-30	MIL-Std 810G, METHOD 507.5, Procedure II-Aggravated

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Product Overview

FR900

Specifications

PHYSICAL	
Dimensions	253 x 254x 56 mm
Weight	1.5kg
Visual Status Indicators	Multicolor LEDs : Power, Activity, Status, Fault, Ant 4-8
RF CHARACTERISTICS	
Max Receive Sensitivity	-84 dBm monostatic
Return Loss (min)	10 dB
Air Protocols	ISO 18000-63 (EPC Class 1Gen-2 V2)
Frequency (UHF Band)	US: 902-928MHz EU: 865-868MHz JP1: 916-921MHz, JP2: 916~923MHz CN: 920.5-924.5MHz Russian Federation: 866-868 MHz
Transmit Power Output	US : 6 dBm to +36 dBm (EIRP) at the antenna EU : 3 dBm to +33 dBm (ERP) at the antenna configurable in 1 dB steps (Max radiated power at antenna should be lower than 4W EIRP for US/Canada and 2W ERP for EU)
CONNECTIVITY	
Communications	10/100 Base T Ethernet; USB Host & Client (Type A & B); DB9 1ea, RJ-45 1ea, HW Resetbutton, Function button (Optional) Wi-Fi and Bluetooth via dongle adapter
General Purpose I/O	4 inputs, 4 outputs optically isolated (Terminal Block)
Power Supply	POE / POE+ +24V DC Universal Power Supply
Antenna Ports	8 monostatic ports(Reverse Polarity TNC) circular or linear polarization; near and far field compatible
ENVIRONMENTAL	
Operating Temp.	-20° to +55°C / -4° to +131°F
Storage Temp.	-40° to +85°C / -40° to +185°F
Humidity	5-95% non-condensing
Sealing	IP53
Shock / Vibration	MIL-STD-810G

HARDWARE, OS AND FIRMWARE MANAGEMENT	
Processor	600 MHz Processor
Memory	256 MB RAM / 512MB Flash
Operating System	Linux
Firmware Upgrade	USB storage device Web-based and remotefirmware upgrade capabilities
Management Protocols	Bluebird Shell (SSH Protocol), RM Agent (MQTT Protocol)
Network Services	DHCP, HTTP, FTP, SFTP, SSH, NTP, mDNS, LLMNR, MQTT
Network Stack	IPv4 and IPv6
Security	Transport Layer Security Ver 1.2, FIPS-140SSL / SSH-based security
Host Interface	EPCglobal Low Level Reader Protocol (LLRP)
API Support	.NET, C and Java EMDK
Software Support (Bluebird)	Bluebird Universe™ for RFID
REGULATORY COMPLIANCE	
Safety	UL 60950-01, UL 2043, IEC 60950-1, EN 60950-1
RF / EMI / EMC	FCC Part 15, RSS 210, EN 302208, ICES-003 Class B, EN 301489-1/3 For Malaysia: 919-923MHz
SAR / MPE	FCC 47CFR2: OET Bulletin 65; EN 50364
Other	ROHS
WARRANTY	
Warranty	One year

EMPOWERING BUSINESSES WITH ACTIONABLE DATA

BUSINESS INTELLIGENCE DELIVERED BY HIGH-PERFORMANCE RFID SOLUTIONS FROM BLUEBIRD