

GUARDIAN



TQ-GUARDIAN-A Digital Class A BDA UL2524 Listed



FEATURES

- Improves coverage for Public Safety Band 14 Cellular Network Frequencies: (UL: 799-805, 806-816 & DL: 769-775 851-861)
- Class A, 32 channel independently controlled channels per band with Auto Gain Control (AGC) for each channel
- 90 dB gain, 2-Watt system
- Meets the code for NFPA 72/1221 and IFC 510
- UL 2524 Certified and Labeled
- Ethernet port with built-in TowerIQ Sentry™ remote monitoring hardware
- Integrated dry contact 9-pin alarming
- UPS port for external battery backup
- Automatic gain control (AGC) and Oscillation Detection with automatic remediation
- Energy-saving operation allows bands to remain dormant when not in use
- A/C 110V or D/C 24- 30 V power option
- Independently adjustable frequency attenuation for uplink and downlink
- (Reduce gain in -1 dBm increments)
- Industry leading 3-year warranty available

TowerIQ's TQ-GUARDIAN-A Public Safety Band signal booster enhances in-building coverage for crucial communications, delivering consistent signal for First Responders and other public safety officials who rely on two-way radio communication inside large buildings.

TQ-GUARDIAN-A is a Class A, 2-Watt, bi-directional amplifier with a maximum gain of 90 dB supporting both the 700 and 800 MHz Public Safety frequency bands.

In the majority of cases, newly constructed buildings with considerable size, or existing buildings that increase capacity by expanding the building footprint are required to have signal strength of -95 dBm or better in designated critical areas – elevators, stairwells, etc. – in order to receive a certificate of occupancy. TQ-GUARDIAN-A meets the code for NFPA 72/1221, IFC 510, and features UL2524 Certification including UL 50 certified/NEMA-4 rated amplifier housing.

Additionally, the TQ-GUARDIAN-A comes equipped with dry contact 9-pin alarming compatibility, UPS and Ethernet port enabled remote monitoring. TowerIQ provides an industry leading 3-year warranty.

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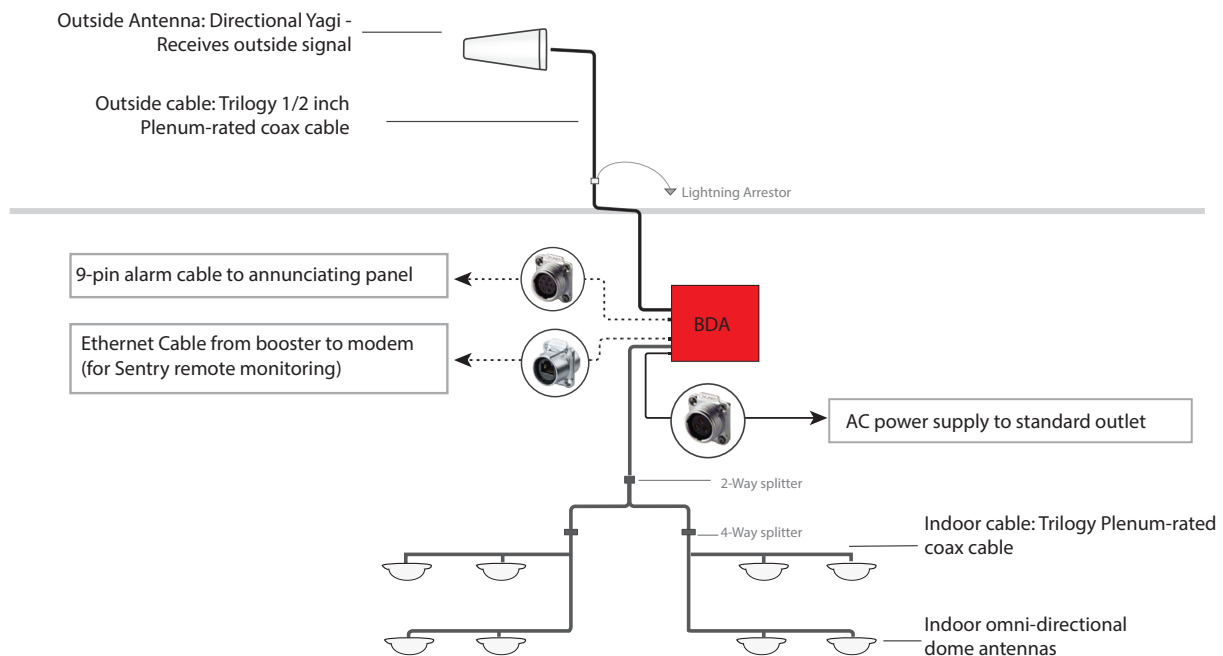
Electrical Specifications

Electrical	700 MHz	800 MHz
Frequency Range, Uplink	799 – 805 MHz	806 – 816 MHz
Frequency Range, Downlink	769 – 775 MHz	851 – 861 MHz
Channel Bandwidth	12.5 / 25 / 75 + 10 MHz (LTE, US)	12.5 / 25 / 75 MHz
Number of Channels	32	32
Total Output Power, Uplink	27 dBm	27 dBm
Total Output Power, Downlink	33 dBm	33 dBm
Maximum System Gain	90 dB	90 dB
Gain Adjustment Range (1 dB step)	0-50 dB	0-50 dB
Pass Band Ripple, p-p	≤5 dB	≤5 dB
Uplink Noise Figure	≤5 dB	≤5 dB
System Group Delay	≤35 usec	≤35 usec
Intermodulation	≤-13 dBm	≤-13 dBm
Spurious	9 kHz to 1 GHz	FCC Compliance
	1 GHz to 12.75 GHz	FCC Compliance
Absolute Maximum RF Input Power	-10 dBm	-10 dBm
Impedance	50 Ω	50 Ω

Technical Specifications

Certifications	FCC: ID 2AXVJPSBG-2A Part 90
	UL: 2524
Dimensions	21.2 x 17.2 x 8.0 in
Enclosure cooling	Convection
Environmental Class	Type 4
Operating Humidity	95%
Operating Temperature	-27 to +140°F (-33 to +60°C)
Power Consumption	Single band: 60W
	Dual band: 80W
Power Supply	AC: 100-240/50-60 Hz
	DC: 24-30 V
RF Connections	N Female
Weight	45.9 lbs (53 lbs shipped)

Example Building Component Layout





Additional Required Components:

Note: Some component options are listed in table below. Not all accessories are listed.

- One External antenna (directional Yagi)
- Multiple Inside antennas (omnidirectional domes and/or directional panels)
- Cable splitter for inside antennas
- Sufficient ultra-low loss interior/exterior cable, 50 ohm
- Lightning protector
- Grounded surge suppressor for DC power supply

Included Components:

- TQ-GUARDIAN-A bi-directional amplifier with NEMA-4 rated housing and mounting kit
- Alarm cable and connector
- Ethernet connector
- AC power cable
- DC power cable and connector

Donor Antenna Options

TQ-230W	Directional Wide Band 50 Ω Yagi Antenna (698 - 2700 MHz)	N-Female connectors	10 to 11 dBi
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In-Building Antenna Options

TQ-535W	Omni-Directional Wide Band Low-Profile 50 Ω Antenna w/ mounting kit (698 – 2700 MHz)	N-Female connectors	3.5 to 6 dBi
TQ-222W	Omni-Directional Wide Band Dome 50 Ω Antenna (698-960 / 1700 - 2700 MHz)	N-Female connectors	3 dBi
TQ-540W	Directional Wide Band Panel 50 Ω Antenna (698-2700 MHz)	N-Female connectors	6.5 to 9 dBi

Couplers & Splitters

TQ-COUP	Wide Band Coupler (698-2700 MHz)	N-Female connectors
TQ-SPLIT	Wide Band Splitters (698-2700 MHz)	N-Female connectors

Cable

TQ-COAX-PL-1000FT	Trilogy 1/2 inch conductor air dielectric cable 1000ft spool
TQ-COAX-PL-FT	Trilogy 1/2 inch conductor air dielectric cable by foot

⚠ WARNING

THIS IS NOT A CONSUMER DEVICE. IT IS DESIGNED FOR INSTALLATION BY FCC LICENSEES AND QUALIFIED INSTALLERS. USERS MUST HAVE AN FCC LICENSE OR THE EXPRESS CONSENT OF AN FCC LICENSEE TO OPERATE THIS DEVICE.

UNAUTHORIZED USE MAY RESULT IN SIGNIFICANT FORFEITURE PENALTIES, INCLUDING PENALTIES IN EXCESS OF \$100,000 FOR EACH CONTINUING VIOLATION.

Part 90 Signal Boosters. THIS IS A 90.219 CLASS A DEVICE.

Ordering Information

Model	Description	Stock No.
TQ-GUARDIAN-A	2W Class A Channelized Public Safety Booster for PS 700/800/FirstNet / 32 Channels / 90dB / UL 2524 NEMA 4 Rated	3996113