

GRC-5220

TACTICAL BROADBAND
ETHERNET RADIO





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TACTICAL BROADBAND ETHERNET RADIO

GRC-5220 is the Orthogonal Frequency Division Multiple Access (OFDMA) based high capacity Ethernet radio designed for outdoor use in the tactical field to provide secure and reliable communication. GRC-5220 uses 2x2 Multiple Input Multiple Output (MIMO) technologies to provide high throughput and communication reliability.

GRC-5220 also provides Quality of Service (QoS) support to ensure the successful delivery of both bandwidth intensive and delay sensitive applications at the same time.

GRC-5220 radio system consists of two units: BaseBand Unit (BBU) and Radio Frequency Unit (RFU). Both units are designed to be used in harsh outdoor environments, such as the tactical battlefield. GRC-5220 system ensures that two units can be separated more than 1 km.

Operating Frequencies

- NATO Band III+ (1350 – 2690 MHz)
- NATO Band IV (4400 – 5000 MHz)

Performance of Point-to-Point (PTP) Mode

- Ethernet Throughput: Full-duplex 100 Mbps, total 200 Mbps
- Configurable Downlink/Uplink ratios
- Communication Distance: 100 km under Line-of Sight (LOS) conditions

General

- System Capability: LOS, and non-LOS (NLOS)
- Operating Modes: Point-to-Point (PTP), Point-to-Multipoint (PMP) [up to 3 sector]
- Power Requirements: AC: 220 \pm 10% V, 47.5-52.5 Hz
- DC: 21-32 V - <300 W

Wireless

- Transmission: OFDMA, MIMO, TDD (Time Division Duplex)
- Channel Size 0.3125, 1.25 (only PTP), 2.5, 5, 10, 20, 40 MHz
- Channel Resolution: 312.5 kHz
- TX Power: Peak 37 dBm, average 25 dBm, adjustable with 0.5 dB steps (manual and automatic)
- Rx Sensitivity: -102 dBm (10 MHz, QPSK modulation)
- Modulation: QPSK, 16QAM, 64QAM, 256QAM (only PTP)

ECCM

- Full-band frequency hopping
- Frequency escape
- Automatic and manual transmit power control
- Adaptive Modulation and Coding (ACM)
- 256-bit AES encryption

Interfaces

- Traffic Channels: 1000BaseT Ethernet
- Service Channels (EOW-Voice): 10/100BaseT PoE
- Network Management: 10/100BaseT Ethernet

Environmental

- Compatible with MIL-STD-810G, especially designed for tactical field usage

EMI/EMC

- Compatible with MIL-STD-461F

Accessories

- ASELSAN EOW Handset
- Tactical f/o ve Power Cables
- GRC-5220-AG13 Band-III+ Reflector Antenna
- GRC-5220-AG23 Band-III+ Dual-Port Reflector Antenna
- GRC-5220-AP13 Band-III+ Panel Antenna
- GRC-5220-AP23 Band-III+ Dual-Port Panel Antenna
- GRC-5220-AS13 Band-III+ Sector Antenna
- GRC-5220-AS23 Band-III+ Dual-Port Sector Antenna
- GRC-5220-AO13 Band-III+ Omi Antenna
- GRC-5220-AO23 Band-III+ Dual-Port Omni Antenna
- GRC-5220-AG14 Band-IV Reflector Antenna
- GRC-5220-AG24 Band-IV Dual-Port Reflector Antenna
- GRC-5220-AP14 Band-IV Panel Antenna
- GRC-5220-AP24 Band-IV Dual-Port Panel Antenna
- GRC-5220-AS14 Band-IV Sector Antenna
- GRC-5220-AS24 Band-IV Dual-Port Sector Antenna
- GRC-5220-AO14 Band-IV Omni Antenna
- GRC-5220-AO24 Band-IV Dual-Port Omni Antenna

