EMTS Telecom Services

TURNING TECHNOLOGY INTO SOLUTIONS

1800-2100 43 dBm MIMO Tri-Band High Power Fiber Optic Remote Unit

Model No: RU-1821-43W50-M

Features:

- Multi-Band Support: Operates on 1800 MHz and 2100 MHz FDD bands, enabling multi-operator network deployment
- Efficient Fiber Utilization: Transmits Tx/Rx control and alarm signals over a single fiber optic cable
- MIMO: One Remote Unit supports MIMO in 1800/2100 bands
- Star Topology: One Master Unit (MU) can connect up to four Remote Units (RUs), maximizing fiber cable efficiency
- High Output Power**:** Delivers up to 43 dBm composite power, compliant with ETSI standards for GSM, WCDMA, and LTE
- High MTBF: Designed for long-term, continuous operation with a mean time between failures (MTBF) exceeding 100,000 hours
- Standards Compliance: Fully compliant with 3GPP and ETSI standards, and meets CE requirements
- Wide Operating Temperature Range: Reliable performance from -40 °C to +55 °C
- Easy Installation and Maintenance: Simplified field installation and serviceability reduce rollout time and operational costs
- Loss Compensation: Compensates for insertion loss in passive components and transmission loss in feeder cables
- Compact and Robust Design: High-performance system housed in a waterproof enclosure suitable for indoor and outdoor installations
- Flexible Mounting: Remote Unit designed for wall mounting; Master Unit designed for standard 19-inch rack installation
- Local and Remote Management: USB port enables local connection to a laptop for monitoring; integrated IP-based NMS allows remote supervision and parameter downloads via Ethernet

EMTS Telecom Services offers a comprehensive portfolio of enhanced coverage solutions for the Wireless Networks, Based on advanced technologies. EMTS proven, indoor and outdoor solutions solve a wide range of network challenges including interference and oscillation problems, challenging coverage holes, rapid response deployment and inadequate in-building coverage. Regardless of the technology or frequency, EMTS can provide customized coverage solutions that address any combination of unique and complex network needs for the Wireless Networks.

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Introduction

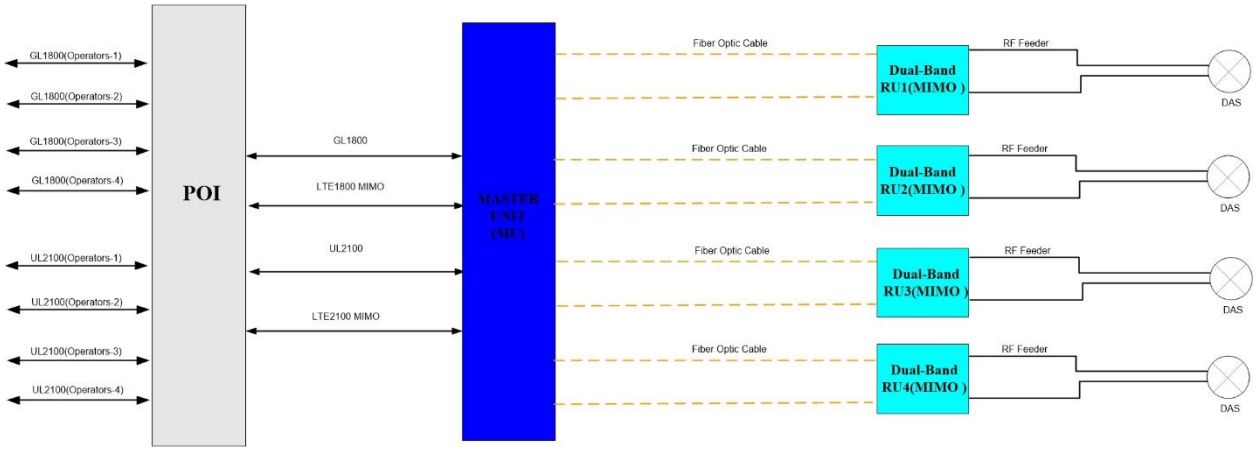
EMTS Telecom Services Ltd. Fiber Optic Repeater System is a highly reliable and proven solution for extending and improving the coverage of 1800/2100 MHz telecommunication networks. The system is composed of two main modules: the Master Unit (MU) and the Slave Fiber Remote Unit (RU). A single Remote Unit supports MIMO in 1800 and 2100 MHz bands .

The Master Unit can be directly connected to the BTS or integrated with an RF repeater that receives the BTS signal. The Remote Unit delivers enhanced signal coverage within the designated service area.

The EMTS Fiber Optic Repeater System amplifies signals in both uplink and downlink directions over a continuous, factory-tuned bandwidth. Its robust design, easy deployment, and straightforward field maintenance significantly reduce operational costs and ensure high reliability with an extended mean time between failures (MTBF).

This cost-effective and scalable solution is ideal for extending reliable mobile coverage in challenging environments such as subways, tunnels, large indoor facilities, and complex outdoor distribution scenarios.

Application Diagram



About EMTS Telecom Services Ltd.:
EMTS is a leading supplier of high-quality RF coverage solutions designed to maximize wireless network coverage in difficult RF environments and complex settings. The company specializes in extending RF radio coverage to rural areas, office buildings, subways, tunnels and shadowed areas. The EMTS coverage solution supports all major mobile technologies and standards of wireless Networks.

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Technical Specifications:

		Remote Unit Specifications	
Electrical Specifications			
System		**2* LTE1800**	**2* LTE2100**
Frequency Range	**Uplink**	2*1710~1785MHz	2*1920~1980MHz
	Downlink	2*1805~1880MHz	2*2110~2170MHz
Bandwidth		2*75MHz	2*60MHz
Maximum Input Power (Non-Destructive)		10 dBm	
Composite DL RF Output Power		43±2dBm Per Band	
Gain of RU		50±3dB Per Band	
Gain Adjustment Range		0~25B @ Step of 1 dB	
AGC		≥10dB	
VSWR		≤1.5	
Spurious Emission		9KHz~1GHz: ≤ -36dBm	
Spurious Emission		1GHz~12.75GHz: ≤ -30dBm	
System Delay		≤2us	
I/O Impedance		50Ω	
Optical Output Power		0±3dBm@1310nm	
Fiber Type/Number		Single mode	
Optical Receiver Sensitivity		≥ -12dBm	
Optical Connector Type		2* FC/APC (1 Port for SISO and 1 Port for MIMO)	
RF Connector Type		2*N-Female(1 Port for SISO and 1 Port for MIMO)	
Power Supply		AC220V, 50/60Hz	
Power Consumption		≤450W	
Environmental Specifications			
Ingress Protection		Indoor and Outdoor (IP65)	
Operating Temperature		-40°C ~ + 50°C	
Relative Humidity		≤ 95% (Non Condensing)	
Cooling		Passive	

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Mechanical Specifications	
Dimensions	500*440*235mm
Weight	≤45kg
Mounting Type	Wall or Pole Mounting
Local and Remote-Control Specifications	
LED Indicator	Power Supply, Running, Alarm
Local Control	Via USB Interface
Remote Monitoring	Through MU via Fiber Optical Cable
Comply with Standards	
Safety	EN 62368-1 General, EN 50385 General
EMC	EN 301 489-1, EN 301 489-50
Radio	ETSI - ETSI EN 303 609 & ETSI EN 301 908-11 3GPP - 3GPP TS 36.143 & 3GPP TS 36.106
CE	Compliant with relevant EU directives

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