

# 23dBm 900-1800-2100-2600MHz MIMO Quad-Band Fiber Optic Remote Unit



**Model No: RU-9182126-23W35-M**

## Features:

- Multi-Band Support: Operates on 900 MHz, 1800 MHz, 2100 MHz, and 2600 MHz FDD bands, enabling multi-operator network deployment
- MIMO: One Remote Unit supports MIMO in 1800/2100/2600 MHz bands
- Efficient Fiber Utilization: Transmits Tx/Rx control and alarm signals over a single fiber optic cable
- Star Topology: One Master Unit (MU) can connect up to four Remote Units (RUs), maximizing fiber cable efficiency
- Output Power: Delivers up to 23 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.

## Introduction

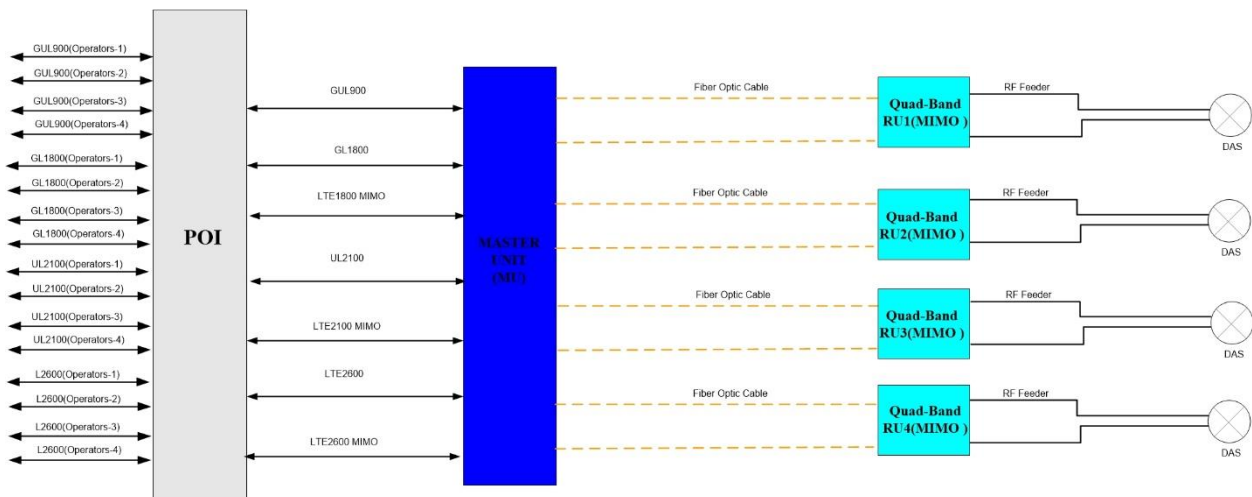
EMTS Telecom Services Ltd. Fiber Optic Repeater System is a highly reliable and proven solution for extending and improving the coverage of 900/1800/2100/2600 MHz telecommunication networks. The system is composed of two main modules: the Master Unit (MU) and the Slave Fiber Remote Unit (RU). A single Remote Unit supports MIMO in 1800 ,2100 and 2600MHz 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                                |                         | EGSM/UMTS900                                   | 2xLTE1800      | 2xLTE2100      | 2xLTE2600      |
| Frequency Range                       | Uplink                  | 880~915MHz                                     | 2x1710~1785MHz | 2x1920~1980MHz | 2x2500~2570MHz |
|                                       | Downlink                | 925~960MHz                                     | 2x1805~1880MHz | 2x2110~2170MHz | 2x2620~2690MHz |
| Bandwidth                             |                         | 2x35MHz                                        | 2x75MHz        | 2x60MHz        | 2x70MHz        |
| Maximum Input Power (Non-Destructive) |                         | 10 dBm                                         |                |                |                |
| Composite DL RF Output Power          |                         | 23±2dBm Per Band                               |                |                |                |
| Gain of RU                            |                         | 35±3dB Per Band                                |                |                |                |
| Gain Adjustment Range                 |                         | 0~20B @ Step of 1 dB                           |                |                |                |
| AGC                                   |                         | ≥10dB                                          |                |                |                |
| VSWR                                  |                         | ≤1.5                                           |                |                |                |
| Spurious Emission                     |                         | 9KHz~1GHz: ≤ -36dBm                            |                |                |                |
| Spurious Emission System Delay        | 1GHz~12.75GHz: ≤ -30dBm |                                                |                |                |                |
|                                       | ≤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 and1 Port for MIMO) |                |                |                |
| Power Supply                          |                         | AC220V, 50/60Hz                                |                |                |                |
| Power Consumption                     |                         | ≤100W                                          |                |                |                |
| Environmental Specifications          |                         |                                                |                |                |                |
| Ingress Protection                    |                         | Indoor (IP40)                                  |                |                |                |
| Operating Temperature                 |                         | -10℃ ~ + 45℃                                   |                |                |                |
| Relative Humidity                     |                         | ≤ 95% (Non Condensing)                         |                |                |                |
| Cooling                               |                         | Passive                                        |                |                |                |



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| <b>Mechanical Specifications</b>               |                                                                                       |
|------------------------------------------------|---------------------------------------------------------------------------------------|
| <b>Dimensions</b>                              | 361*265*113mm                                                                         |
| <b>Weight</b>                                  | ≤13kg                                                                                 |
| <b>Mounting Type</b>                           | Wall or Pole Mounting                                                                 |
| <b>Local and Remote-Control Specifications</b> |                                                                                       |
| <b>LED Indicator</b>                           | Power Supply, Running, Alarm                                                          |
| <b>Local Control</b>                           | Via USB Interface                                                                     |
| <b>Remote Monitoring</b>                       | Through MU via Fiber Optical Cable                                                    |
| <b>Comply with Standards</b>                   |                                                                                       |
| <b>Safety</b>                                  | EN 62368-1 General, EN 50385 General                                                  |
| <b>EMC</b>                                     | EN 301 489-1, EN 301 489-50                                                           |
| <b>Radio</b>                                   | ETSI - ETSI EN 303 609 & ETSI EN 301 908-11<br>3GPP - 3GPP TS 36.143 & 3GPP TS 36.106 |
| <b>CE</b>                                      | Compliant with relevant EU directives                                                 |



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