

ICS Triple -Band Digital Mini Repeater 20dBm 900-1800-2100MHz



Model No: DMR-91821-20W90

Features:

- Triple Band Digital Repeater supporting 900, 1800 and 2100MHz bands.
- Advanced Digital Filtering Technology with up to 25MHz tuning range per band
- Fully comply with ETSI & 3GPP with 20dBm total composite power and 90dB gain
- Extremely low NF with an excellent EVM reduces the uplink noise to the base station
- IMOP Support (Isolation Measurement and Oscillation Protection), Smart mode to auto-adjust gain according to the isolation and signal level received by the donor site.
- ICS mechanism for improving isolation by 25dB.
- Supports WCDMA & LTE (optional: 5G) in the same repeater.
- Linear power amplification effectively suppresses inter-modulation and spurious emissions, minimizes uplink interference (optional: uplink shutdown)
- Easy installation using a ruggedized enclosure, LED indication, Local control via keyboard, USB, or WIFI
- Optional control and alarm via 4G modem using EMTS NMS

Introduction

The EMTS Telecom Services Ltd. Triple Band 1800/2100MHz Digital Mini Repeaters (DMR) provide an excellent solution to poor signal coverage and are used for coverage extension and building applications. The DMR is designed to support signal coverage for 1800/2100MHz bands with up to 1500 sqm. covered area, supporting both LTE and WCDMA technologies. The mini repeater has an intelligent algorithm to minimize uplink interference; simultaneously, the isolation detection function allows users to be alerted when the distance between the donor and service antenna is insufficient. The easy-to-install feature highlights the DMR as an excellent signal enhancement solution, improving the LTE/WCDMA coverage and capacity and 5G network dead areas where service is poor. The EMTS Digital Mini-Repeater also enhances the mobile network's capacity and data coverage in areas with limited signal strengths. It provides an affordable solution for indoor signal coverage problems due to signal fading and attenuation caused by architectural obstacles. Its easy installation and maintenance can help carriers get a fast return on investment. Setting the sub-bands using advanced digital technology is done via EMTS Mobile App or direct connection via USB cable. The EMTS Telecom Services DMR is based on the latest technology using advanced RF and digital modules that reduce power consumption and increase reliability and MTBF. The DMR can be connected to EMTS NMS via an LTE modem for remote monitoring and control & utilizing an advanced ICS or IMOP algorithm for preventing oscillations.



EMTS Telecom Services Ltd. offers a comprehensive portfolio of enhanced coverage solutions for 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 Wireless Networks.

Technical Specifications:

Electrical Performance				
System		GSM/WCDMA/LTE900	GSM/LTE1800	UMTS/LTE/5G NR2100
Frequency Range	Uplink	1710~1785MHz	880-915MHz	1920~1980MHz
	Downlink	1805~1880MHz	925-960MHz	2110~2170MHz
No. of Carriers		1/2/4 Carriers, the Bandwidth of the Corresponding Carriers is 20/10/5MHz	1/2/4 Carriers, the Bandwidth of the Corresponding Carriers is 20/10/5MHz	1/2/4 Carriers, the Bandwidth of the Corresponding Carriers is 20/10/5MHz
Maximum Output Power	Uplink	20±2dBm	20±2dBm	20±2dBm
	Downlink	20±2dBm	20±2dBm	20±2dBm
Output power limits (per band)		Single Band: 20dBm; Triple band: 17dBm		
Gain		90 minimum		
Gain Adjustment Range		0~31dB @Step of 1dB		
AGC/ALC		≥20dB		
Intelligent Algorithm to Prevent UL Interference		Support		
Interference Cancellation- Optional		≥ 25dB (Isolation+10dB)		
In-Band Ripple (Typical)		≤±3dB		
Maximum Input Power		-10dBm		
Spurious Emission		9kHz~1GHz: ≤ -36dBm		
		1GHz~12.75GHz: ≤ -30dBm		
Frequency Error		≤ 0.05ppm		
EVM(RMS)		≤ 8%		≤ 8% Optional ≤ 4.5% (5G)
RF Channel Switch		Supports ON/OFF Settings through Software		
VSWR		≤ 2.1		
Noise Figure		≤ 7dB		
Group Delay		≤ 5μs		
I/O Impedance		50 Ω		
Isolation Detection		Isolation Check During Boot-Time		

About EMTS Telecom Services Ltd.:

EMTS Telecom Services 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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Alarm Monitoring System	Alarm for Uplink Self-Oscillation
ICS	Isolation =Gain-25dB

Mechanical Performance	
RF Connector	2XN-Female
Power Consumption	≤ 80W
Power Supply (AC to DC)	Input AC220V,50/60Hz
Dimensions	318*265*113mm
Weight	≤7kg
Mounting	Wall Mounting
Environmental Performance	
Operating Temperature	-20 ~ +50 °C
Application	Indoor (IP30)
Relative Humidity Range	≤95%(non-Condensing)
Control and Indications	
LED Indicator	Power Supply, Alarm, Running
Local Control	Via Keyboard, USB Interface, or WIFI
NMS Mode (optional)	Cloud NMS via 4G Wireless Modem
Complied Standards	
Conformance Standard	Safety: EN 60950 EMC: ETSI 301 489-50, ETSI 301 489-1, Radio: ETSI 301 908-11, ETSI 301 908-15
3GPP standards	TS 25.106, TS 36,106, TS 38.104
CE	Comply with CE standard

Ordering options

Type	Model No.
Standard	DMR-91821-20W90
Standard with ICS capability	IDMR-91821-20W90



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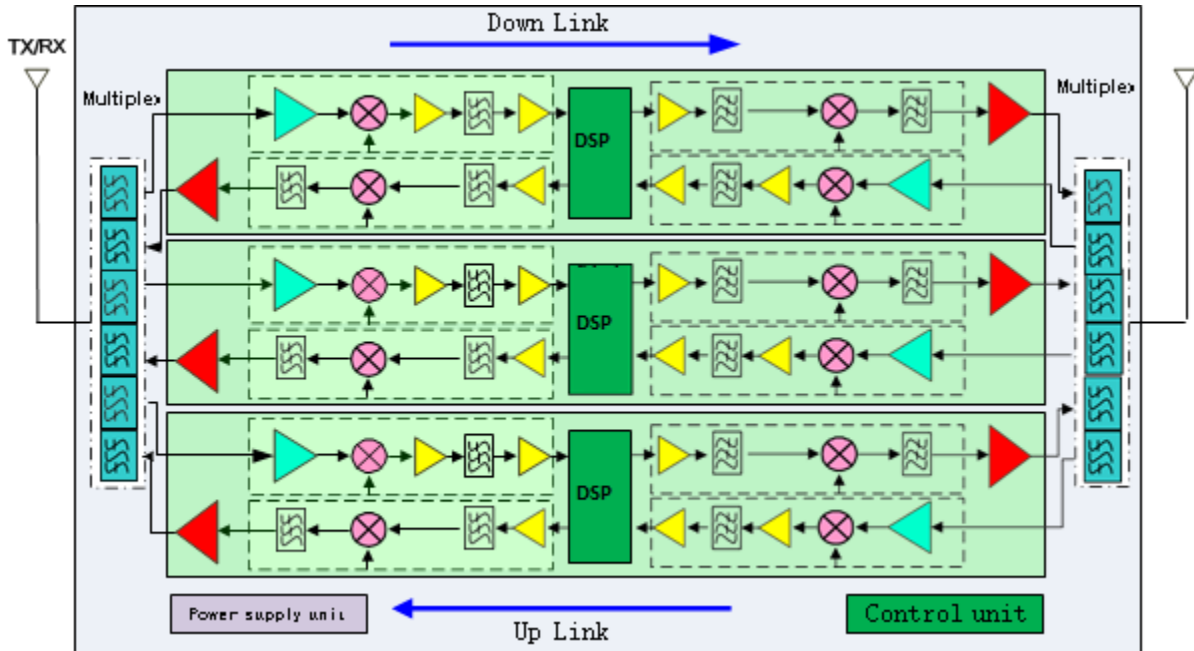


Figure 1 - schematic diagram of Repeater structure

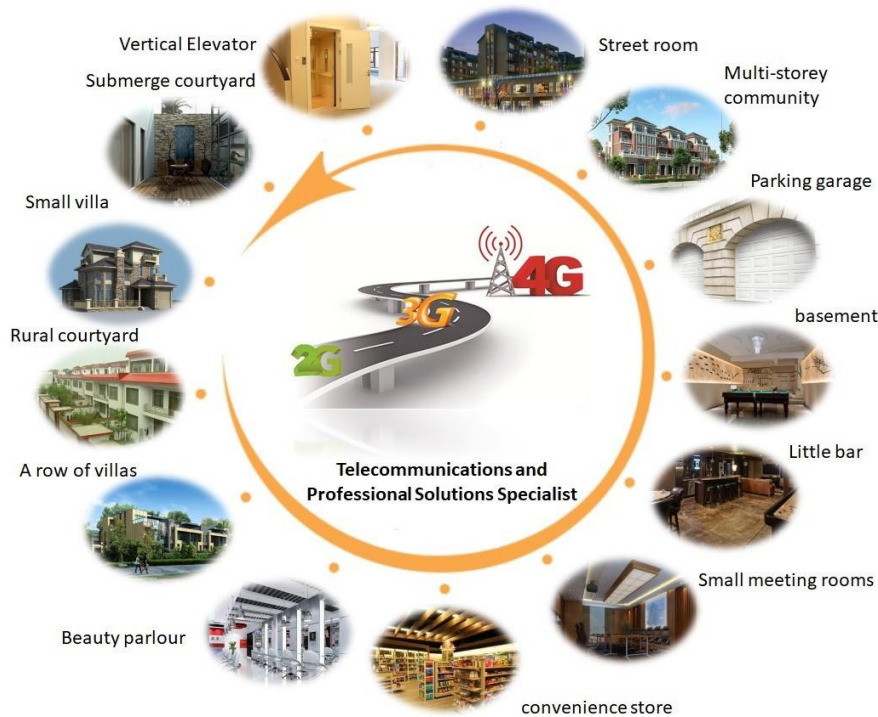


Figure 2 - schematic diagram of system application scenario

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