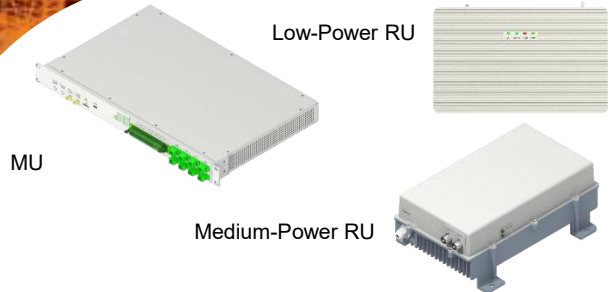


# 41-FXWL18L21XX-A-C1

## HYBRID OPTICAL FIBER REPEATER

Frequency: 1710-1880 /1920-2170MHz | Output Power: Low-Power RU 21dBm; Medium-Power RU 2x 33dBm (SISO) or 37dBm | Power Supply: AC90~264V | Type: Wireless Coupling | Operation Band: Wide Band | Usage: Indoor



### OVERVIEW

BRIDGE Hybrid Optical Fiber Repeater is the product to solve signal coverage problem of indoor and outdoor. Hybrid Fiber Optical Repeater (FOR) includes master unit (MU) and Low-Power RU or Medium-Power RU as a system transmission products. The MU with optional direct or wireless coupling type to provide flexible applications on sites. The MU receives signal resources from Base station either directly or via air interface and forward the signal through fiber optical cable(s) to RU(s) located in another service areas. The RU boosts the signal to target areas, fast to provide strong signal in poor coverage areas. BRIDGE product portfolio includes a full series of flexible product family to support single band, dual band, triple band, and multiple band systems.

BRIDGE Repeater adopts multimode technologies, compatible with GSM /WCDMA /LTE /NR systems. Its noise and interference control technology reduces the noise floor and interference. BRIDGE product utilize High-quality linear power amplifier to always effectively maintain signal operation in a linear status. Various RF features are optional and customizable to fulfill different deployment scenarios on site.

In the section of material selection, BRIDGE products are all made of good and rugged stuffs, including brand new chipsets and electronic components, ensuring stable performance and long product life.

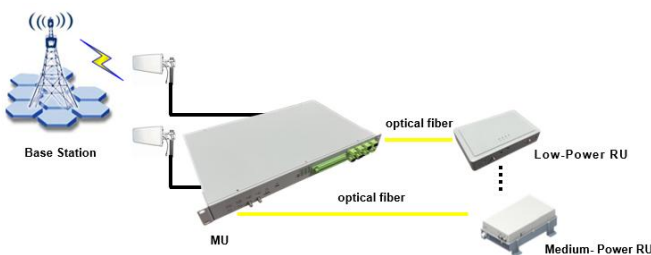
### FEATURES

- Single MU with hybrid RU combination of various RF power
- Fully compatible with multi-mode systems.
- MU:RU = 1:8 with star topology, either Low-Power RU or Medium-Power RU
- Customizable operation frequency band is much suitable for customer’s networks, rejecting the interference.
- Perfect calling and data transmission performance by high linear amplifier technology
- Remote control is an option, able to manage and check the product status in offices.
- Compact size and light weight
- Power supply complies with EN 60950.

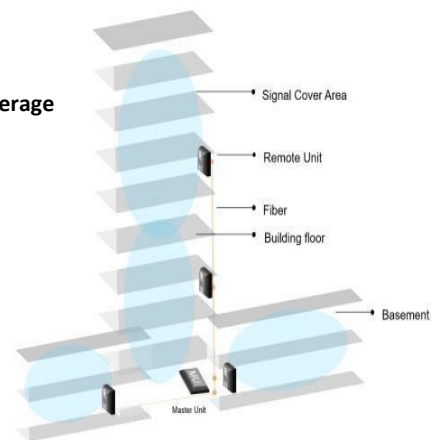
Product Number	
Master Unit (MU)	41-FM <sup>W</sup> L18L21 <sup>19</sup> -A-C1
Low-Power RU	41-FR <sup>W</sup> L18L21 <sup>21</sup> -A-C1
Medium-Power RU 2x 33dBm	41-FR <sup>W</sup> L18L21 <sup>33</sup> -A-C1
Medium-Power RU 37dBm	41-FR <sup>W</sup> L18L21 <sup>37</sup> -A-C1

### SITE APPLICATION

#### Hybrid Fiber Repeater



#### Indoor Coverage



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Revised | R.1.1

# DATA SHEET

## MU: 41-FMWL18L2119-A-C1, RU: 41-FRWL18L2121-A-C1 HYBRID OPTICAL FIBER REPEATER

**Frequency:** 1710-1880 /1920-2170MHz | **Output Power:** Low-Power RU 21dBm | **Power Supply:** AC90~264V

**Type:** Wireless Coupling | **Operation Band:** Wide Band | **Usage:** Indoor



MU

Low-Power RU

### TECHNICAL DATA with 125mW Low-Power RU

#### Electrical Specifications

Item	FDD-LTE1800 (B3)		FDD-LTE2100 (B1)	
	Uplink	Downlink	Uplink	Downlink
Frequency Range	1710-1785MHz	1805-1880MHz	1920-1980MHz	2110-2170MHz
Output Power	19 ±2dBm	21 ±2dBm	19 ±2dBm	21 ±2dBm
Max Gain		≥70dB		≥70dB
Max Input Power	-10dBm	-10dBm	-10dBm	-10dBm
Noise Figure (Mini system MU + 1 RU)	≤10dB	/	≤10dB	/
Gain Adjustment Range	25dB /1dB step			
Automatic Level Control (ALC)	≥20dB			
In-band Ripple	≤10dB			
VSWR	≤2.5			
TimeDelay	≤4.5μs			
Frequency Stability	±0.01ppm			
EVM	≤8% (256QAM)			
Out-of-band Rejection	≥20dB @3MHz ≤f_offset <5MHz ≥25dB @5MHz ≤f_offset			
Outside the operating frequency band	≤-15dBm/1MHz @operating frequency band ≤36dBm/1kHz @9kHz~150kHz ≤36dBm/10kHz @150kHz~30MHz ≤-36dBm/100kHz @30MHz~80MHz ≤-36dBm/100kHz @80MHz~1GHz ≤-30dBm/1MHz @1GHz~12.75GHz			

#### Optical & Mechanical Specifications

RF Connection Mode	MU: 2x SMA Female, 50Ω, 1 Port per Band RU: 1x SMA Female, 50Ω
FO Connector	MU: 8x FC/APC, can be optional RU: 1x FC/APC, can be optional
Type of Fiber Optical Cable	Single Mode
Monitoring & Control	Local: TYPE-C USB (MU & RU) Remote: 4G Modem (MU)
Number of Remote Unit	8 Remote Units per 1 Master Unit
Power Supply Mode	MU: AC90~264V RU: AC90~264V to DC48V by adapter
Power Consumption	MU: ≤30W (Local Unit), RU: ≤20W
Dimension (L xW xH)	MU: 440mm x280mm x43mm (excluding mounting ears) RU: 270mm x165mm x49mm (excluding mounting brackets)
Weight	MU: ≤4kg RU: ≤1kg
Mounting	MU: 19" Cabinet mounted RU: Wall mounted
MTBF	≥50000h

#### Environmental Specifications

Operation Temperature	-10°C ~ +55°C
Humidity	≤85%
IP Rating	MU: IP30, Indoor; RU: IP30, Indoor

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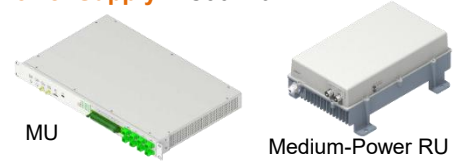
Revised | R.1.1

# DATA SHEET

## MU: 41-FMWL18L2119-A-C1, RU: 41-FRWL18L2133-A-C1 HYBRID OPTICAL FIBER REPEATER

**Frequency:** 1710-1880 /1920-2170MHz | **Output Power:** RU 2x 33dBm (SISO) | **Power Supply:** AC90~264V

**Type:** Wireless Coupling | **Operation Band:** Wide Band | **Usage:** Indoor



### TECHNICAL DATA with 2W Medium-Power RU

Electrical Specifications				
Item	FDD-LTE1800 (B3)		FDD-LTE2100 (B1)	
	Uplink	Downlink	Uplink	Downlink
Frequency Range	1710-1785MHz	1805-1880MHz	1920-1980MHz	2110-2170MHz
Output Power	19 ±2dBm	2x 33dBm ±2dB (SISO)	19 ±2dBm	2x 33dBm ±2dB (SISO)
Max Gain		≥85dB		≥85dB
Max Input Power	-10dBm	-10dBm	-10dBm	-10dBm
Noise Figure (Mini system MU + 1 RU)	≤9dB	/	≤9dB	/
Gain Adjustment Range	30dB /1dB step			
Automatic Level Control (ALC)	≤25dB			
In-band Ripple	≤10dB			
VSWR	≤2.5			
TimeDelay	≤4.5μs			
Frequency Stability	±0.01ppm			
EVM	≤8% (256QAM)			
Out-of-band Rejection	≥20dB @3MHz ≤f_offset <5MHz			
	≥25dB @5MHz ≤f_offset			
Input inter-modulation	3GPP TS 36.106 Chapter 11			
Output inter-modulation	3GPP TS 36.106 Chapter 12			
Operating band unwanted spurious	3GPP TS 36.106 Chapter 9 Category B requirements (Option 2)			

Optical & Mechanical Specifications	
RF Connection Mode	MU: 2x SMA Female, 50Ω, 1 Port per Band RU: 2x N Female, 50Ω
FO Connector	MU: 8x FC/APC, can be optional RU: 1x FC/APC, can be optional
Type of Fiber Optical Cable	Single Mode
Monitoring & Control	Local: TYPE-C USB (MU) Remote: 4G Modem (MU)
Number of Remote Unit	8 Remote Units per 1 Master Unit
Power Supply Mode	MU: AC90~264V RU: AC90~264V
Power Consumption	MU: ≤30W RU: ≤90W
Dimension (L xW xH)	MU: 440mm x280mm x43mm (excluding mounting ears) RU: 364mm x210mm x111mm (excluding mounting brackets)
Weight	MU: ≤4kg RU: ≤3.5kg
Mounting	MU: 19" Cabinet mounted RU: Wall mounted
MTBF	≥50000h

Environmental Specifications	
Operation Temperature	-10°C ~ +55°C
Humidity	≤85%
IP Rating	MU: IP30, Indoor; RU: IP30, Indoor

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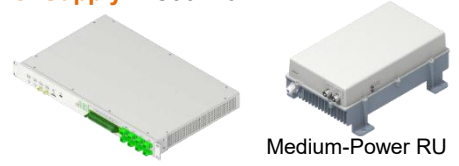
Revised | R.1.1

# DATA SHEET

## MU: 41-FMWL18L2119-A-C1, RU: 41-FRWL18L2137-A-C1 HYBRID OPTICAL FIBER REPEATER

**Frequency:** 1710-1880 /1920-2170MHz | **Output Power:** RU 37dBm (SISO) | **Power Supply:** AC90~264V

**Type:** Wireless Coupling | **Operation Band:** Wide Band | **Usage:** Indoor



### TECHNICAL DATA with 5W Medium-Power RU

Electrical Specifications				
Item	FDD-LTE1800 (B3)		FDD-LTE2100 (B1)	
	Uplink	Downlink	Uplink	Downlink
Frequency Range	1710-1785MHz	1805-1880MHz	1920-1980MHz	2110-2170MHz
Output Power	19 ±2dBm	37dBm ±2dB	19 ±2dBm	37dBm ±2dB
Max Gain		≥85dB		≥85dB
Max Input Power	-10dBm	-10dBm	-10dBm	-10dBm
Noise Figure (Mini system MU + 1 RU)	≤9dB	/	≤9dB	/
Gain Adjustment Range	30dB /1dB step			
Automatic Level Control (ALC)	≤25dB			
In-band Ripple	≤10dB			
VSWR	≤2.5			
TimeDelay	≤4.5μs			
Frequency Stability	±0.01ppm			
EVM	≤8% (256QAM)			
Out-of-band Rejection	≥20dB @3MHz ≤f_offset <5MHz			
	≥25dB @5MHz ≤f_offset			
Input inter-modulation	3GPP TS 36.106 Chapter 11			
Output inter-modulation	3GPP TS 36.106 Chapter 12			
Operating band unwanted spurious	3GPP TS 36.106 Chapter 9			
	Category B requirements (Option 2)			

Optical & Mechanical Specifications	
RF Connection Mode	MU: 2x SMA Female, 50Ω, 1 Port per Band RU: 2x N Female, 50Ω, Only ANT 1 Port Used
FO Connector	MU: 8x FC/APC, can be optional RU: 1x FC/APC, can be optional
Type of Fiber Optical Cable	Single Mode
Monitoring & Control	Local: TYPE-C USB (MU) Remote: 4G Modem (MU)
Number of Remote Unit	8 Remote Units per 1 Master Unit
Power Supply Mode	MU: AC90~264V RU: AC90~264V
Power Consumption	MU: ≤30W RU: ≤90W
Dimension (L xW xH)	MU: 440mm x280mm x43mm (excluding mounting ears)
	RU: 364mm x210mm x111mm (excluding mounting brackets)
Weight	MU: ≤4kg
	RU: ≤3.5kg
Mounting	MU: 19" Cabinet mounted
	RU: Wall mounted
MTBF	≥50000h

Environmental Specifications	
Operation Temperature	-10°C ~ +55°C
Humidity	≤85%
IP Rating	MU: IP30, Indoor; RU: IP30, Indoor

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