



The ALLIANCE Release 6 platform is SOLiD's multi-operator, neutral host Distributed Antenna System (DAS) that efficiently delivers wireless RF signals into any indoor or outdoor location difficult to cover with traditional macro networks.

The Mid-power Remote Optic Unit (MROU) can support up to six commercial bands, each delivering 5W of output power. An add-on remote unit (AOR) is supported for additional RF services.

The 5W MROU features:

- Combiners support one or two antenna ports
- Easy install, commissioning and management
- Convection cooled. Optional fan unit available
- Rugged construction: IP66 / NEMA 4 certified
- Up to 8 bands on one fiber

### Specifications

RF Parameters		All Bands
Input Power	TX	LPOI: -10 to +20 dBm. HPOI: +15 to +43 dBm each port
	RX	MROU: -50 dBm max
Output Power	TX	+37 dBm for all bands; +38 dBm for 2100AWS
	RX	All bands -3 dBm ± 0.5 dB (except 2500TDD -23 dBm ± 1 dB)
System Gain	TX	57dB max for all bands; 60 dB max for 800 Sprint/850C
	RX	All bands 50 dB max (except 30 dB for 2500TDD); 25 dB gain control at remote
Spurious Emissions		Maximum Intermodulation Distortion. TX: ≤ -13 dBm @ 9kHz to 5GHz
Nominal Impedance		50 Ohm
System Ripple		4dB for all modules except 5 dB for 2500 TDD and 3 dB for 2300 WCS
VSWR		1.65:1 typical, 1.8:1 max at each band In / Out ports
<b>NOTES:</b> TX Input power refers to the DAS headend. TX Output power is measured at the antenna port. VHF/UHF specifications can be found in the AOR Data Sheet.		

RF Parameter	700LTE+ FirstNet	700PS/ 800PS	800/ 850 Cell	900SMR/ Paging	1900PCS	2100AWS	2300WCS	2500TDD
NF (typical)	3.5 dB	4.6 dB	2.9 dB	3.7 dB	4 dB	3.4 dB	5 dB	5.1 dB
NF (max.)	4.2 dB	5.5 dB	3.4 dB	4.4 dB	4.5 dB	3.9 dB	5.4 dB	5.6 dB
IIP <sub>3</sub> (typical)	-21.2 dB	-20.4 dB	-21.4 dB	-21.0 dB	-19.8 dB	-23.2 dB	-20.3 dB	-21.3 dB
IIP <sub>3</sub> (max.)	-21.7 dB	-20.9 dB	-21.9 dB	-21.5 dB	-20.3 dB	-23.7 dB	-20.8 dB	-21.8 dB
EVM (typical)	1.8%	1.8%	1.8%	1.9%	1.9%	1.8%	1.3%	1.8%
EVM (max.)	2.2%	2.2%	2.2%	2.3%	2.3%	2.2%	1.6%	2.5%
Downlink	729-768	758-775 851-860	862-894	929-941	1930-1995	2110-2180	2350-2360	2496.8- 2690
Uplink	699-716 777-798	788-805 806-815	817-849	896-902	1850-1915	1710-1780	2305-2315	2496.8- 2690
<b>NOTES:</b> For 2500 TDD services, the operator sets the sub-band using management software. The EVM performance in this table includes 0.7% error from the signal source.								

Power Consumption (Max)	700LTE+ FirstNet	700PS/ 800PS	800/ 850Cell	900SMR/ Paging	1900PCS	2100AWS	2300WCS	2500TDD
5W MRDU	50W	85W	48W	47W	59W	62W	47W	61W
MROU Chassis	RCPU, RPSU, R-Optic = 16W							
<b>NOTES:</b> For total power, add the power consumption of the included MRDU's to the chassis' power consumption.								

Optical	Specification
Wavelength	Tx: 1550 nm; Rx: 1310 nm
Loss	4-port optic module: 5 dBo max.; 1-port optic module: 10 dBo max.

Mechanical	Specification
Mounting Type	Wall or rack (fits standard 19" rack with bracket)
Antenna Connectors	7/16 DIN-female
External Alarm Interface	5-Pin connector on bottom panel
Optical Connector	SC / APC, Step Ferrule, Waterproof, Single Mode Fiber
Monitoring Port	SMA female
Craft Port	Serial interface RS-232 9-pin D-sub male
Dimensions (WxHxD)	12.6" x 45.9" x 10.2" (320 x 1165 x 260 mm) including wall mount bracket
Weight	137 lbs. (62 kg) max with 6 MRDUs
MTBF	8.96 Years (worst-case, fully-loaded unit)
Ingress Protection	IP66, NEMA 4
Operating Environment	Temp: -13 to 131°F / -25 to +55°C. Humidity: 0% to 90% Non-condensing

Regulatory	Specification
Type Approval	FCC, IC, FCC Part 15 Subpart B, Class A
Safety	NRTL Certified
FDA/CDRH	This equipment uses a Class 1 LASER according to FDA/CDRH Rules. This product conforms to all applicable standards of 21 CFR Chapter 1, Subchapter J, Part 1040.

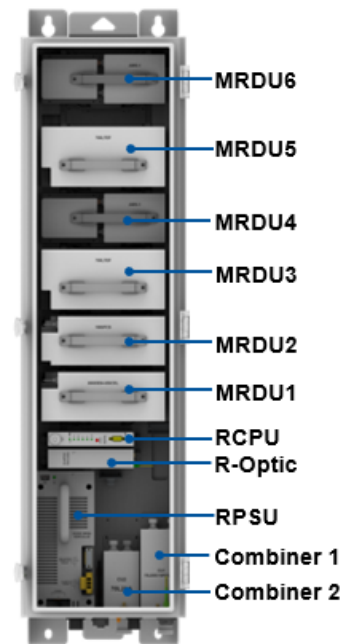
### Overview

SOLiD's 5W Mid-power Remote Optic Unit (MROU) can be mixed with 1W, 2W, and 20W remotes in a single system all driven by a common head end.

This highly efficient, small footprint unit can support up to seven frequency bands. An Add-on Remote unit (AOR) can also be connected to support VHF/UHF.

The MROU enclosure incorporates a rugged, but compact NEMA 4 design. Units can be rack or wall mounted, indoors or outdoors. An external alarm port on the bottom of the enclosure can accept input alarms from connected equipment like battery backup systems.

Combiner units support one- or two-port antenna configurations. A dual fan unit is available for high-temp deployments.



Unit Name	Unit Description
5W Remote Optic Unit (MROU)	Enclosure including RCPU, RPSU_AC or DC, Multiplexer, R-Optic
Add-on Remote (AOR)	An optional add-on enclosure (not shown in figure above), AC or DC power
Remote Power Supply Unit (RPSU)	AC: 100 to 240V. DC: -42 to -56V
Remote Central Processor Unit (RCPU)	Controls and monitors signals for each unit
Mid-power Remote Drive Unit (MRDU)	Filters and amplifies downlink / uplink signals
Remote Optic Module (R-Optic)	Converts downlink optical signals to RF and uplink RF signals to optical
Combiner (1 and 2)	Combines downlink signals and separates uplink signals for each band
External Fan Unit (Optional)	Turns on/off automatically based on operator-defined temperature settings

**Part Numbers**

Part Number	5W MROU / MRDU / Combiners
MROU_C_M_AC	5 WATT Remote Optical Unit Chassis - AC Power with MROU_CU4 no MIMO
MROU_C_M_DC	5 WATT Remote Optical Unit Chassis - DC Power with MROU_CU4 no MIMO
MROU_C_M_AC_CU1	5 WATT Remote Optical Unit Chassis - AC Power, MROU_CU1, Useable with MIMO
MROU_C_M_DC_CU1	5 WATT Remote Optical Unit Chassis - DC Power, MROU_CU1, Useable with MIMO
MROU_B	Blank Amplifier Module for 5W MROU
MRDU_600_700LTE_FN	5 WATT 600 MHz & 700MHz Amplifier Module (Includes FirstNet) *2019Q3
MRDU_700LTEF	5 WATT 700MHz Amplifier Module
MRDU_700LTE_FN	5 WATT 700MHz Amplifier Module (Includes FirstNet)
MRDU_800I_850C	5 WATT 800MHz & 850MHz Amplifier Module
MRDU_1900P	5 WATT 1900MHz Amplifier Module
MRDU_AWS13	5 WATT 2100MHz Amplifier Module (AWS1+3)
MRDU_2300_WCS	5 WATT 2300MHz WCS Amplifier Module
MRDU_2500_60TDD	5 WATT 2500 MHz TDD Amp Module; 60MHz contiguous bandwidth
MRDU_2600_FDD	5 WATT 2600MHz FDD Amplifier Module
MRDU_700LTEF_B	5 WATT 700MHz Full Band Amp Module; Channel B for MIMO
MRDU_1900P_M	5 WATT 1900MHz Amplifier Module; Channel B for MIMO
MRDU_AWS13_M	5 WATT AWS Amplifier Module; Channel B for MIMO Applications
MRDU_2500_60TDD_M	5 WATT 2500 MHz TDD Amplifier Module; 60MHz contiguous bandwidth. MIMO
MRDU_700PS_800PS	5 WATT 700MHz and 800MHz Amplifier Module (Includes FirstNet)
MRDU_900I_REL6	5 WATT 900MHz 900MHz Amplifier Module
MRDU_900ISM	5 WATT 900MHz 900MHz Amplifier Module; 900ISM-PACKAGE **8-12 weeks
MROU_CU1	5 WATT Combiner Unit 700LTE, 850IC, 1900P, AWS13 and 2500/2600
MROU_CU3	5 WATT Combiner Unit for 700PS, 800PS and 900MHz
MROU_CU4	5 WATT Combiner Unit for 700LTE, 850IC, 1900P, AWS13, 2.5TDD, 2.3 WCS
MROU_CU5	5 WATT Combiner Unit for 2500/2600 & 1900 PCS, use with MIMO configurations
MROU_CU6	5 WATT Combiner Unit for 700/1900/AWS13, use with MIMO configurations
MROU_CU4_AWS13_600	5 WATT Combiner Unit, 600/700LTE+FN, 850IC, PCS, AWS13, 2300, 2500 *2019Q3
MROU_FAN_TRAY	External Fan-Tray assembly for 5 Watt MROU chassis

Additional information is available in the following documents, available from [SOLiD Support](#).

SOLiD Operations Manual – ALLIANCE DAS REL6 and SOLiD Installation Manual – ALLIANCE DAS REL6

SOLiD Data Sheet – ALLIANCE MTBF Specification



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