



July 11, 2014

Compliance Testing
1724 S. Nevada Way
Mesa, AZ 85204

To Whom It May Concern:

ALLIANCE REL 6 is SOLiD's multi-carrier, neutral host Distributed Antenna System (DAS), which efficiently delivers wireless RF signals into buildings, campus environments, or any location that is difficult to cover with traditional outdoor macro networks. ALLIANCE DAS supports a broadband frequency range from 150 MHz to 3 GHz to provide coverage for public safety communications, 2-way radio, and commercial wireless service providers.

By greatly improving in-building radio environments, the system allows service providers and enterprise locations to deliver high-quality mobile voice and data services at any site whether a public institution or private facility, including:

- Shopping malls
- Hotels
- Corporate and university campus areas
- Airports
- Hospitals and Clinics
- Underground transportation systems
- Multi-use stadiums and convention centers

The ALLIANCE DAS REL 6 supports both analog (AMPS) and digital (TDMA, CDMA, WCDMA, and LTE) cellular systems in multiple bands through a single strand of fiber for the following communication standards and public interface protocols:

- Frequencies: VHF, UHF, 700MHz (LTE and PS), 800MHz (PS and SMR), 850MHz (Cellular), 900MHz (iDEN and Paging), 1900MHz (PCS), 2100MHz (AWS-1), 2.3GHz (WCS), 2.5GHz (BRS/EBS)

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- Voice protocols: AMPS, TDMA, CDMA, GSM, iDEN, WCDMA
- Data protocols: EDGE, GPRS, WCDMA, CDMA2000, EV-DO, Paging, LTE-FDD, LTE-TDD

ALLIANCE DAS REL 6 provides RF POWER CONTROL™ to guarantee power to each carrier as configured in the DAS management software. Each frequency band has a dedicated amplifier. There is no cross-band sharing, which means more power and control per frequency band. ALLIANCE also features advanced filtering capabilities and 4G Certified MIMO in any band.

The system supports multiple frequencies in a single unit through the addition of plug-in modules. By delivering multiple signals (this includes multiple frequencies and/or MIMO signals) with a single optical cable, the system does not require additional facilities whenever a new frequency is added.

The ALLIANCE multi-carrier system is a flexible and cost-effective neutral host solution offering:

Flexible, Scalable

- Clustering multiple-buildings (campus) as one coverage
- Small footprint
- Mix and match remote units (ROUs): low-power 1W (LROU), mid-power 5W (MROU) and high-power 20W (HROU)
- Single fiber strand to each remote unit

Modular Structures

- Modular frequency upgrade
- Hot-swap plug-in modules for each frequency
- Add additional carriers without the need for additional architecture

Multi-Band, Multi Operator

- Signals from multiple service providers transmitted simultaneously
- Support for multiple operators in a band
- Single infrastructure for 150 MHz to 3 GHz

Low OPEX, CAPEX

- Compact and upgradable design
- Ability to utilize pre-existing infrastructure in building
- Easy installation, rapid commissioning with Auto ID of system components
- SNMP support (Simple Network Management Protocol v2) for web-based management
- Remote Management via TCP/IP connection

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The ALLIANCE DAS REL 6 is comprised of several primary units as well as optional units including:

- BTS Interface Unit (BIU)
- Optical Distribution Unit (ODU)
- Remote Optic Unit (ROU) *Available in low-power 1W (LROU), mid-power 5W (MROU) and high-power 20W (HROU) models
- DAS Management System (DMS-1200 REL 6)
- Add-On Remote Units (AOR and ARU) (Optional to support additional bands)
- Optic Expansion Unit (OEU) (Optional fiber MUX to support highly distributed systems)
- Link Balancer Unit (Optional DAS interface tray)

The figure shows a typical system topology with the BIU, DMS-1200, ODU, and multiple ROUs. The figure also shows the optional OEU and Link Balancer Units.

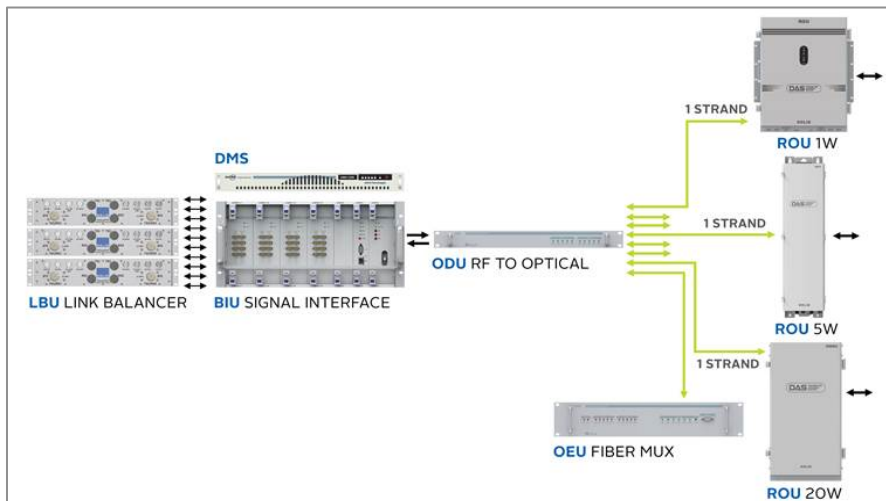


Figure.1 – ALLIANCE DAS Topology

The BIU receives the downlink signals from a base station unit (BTS) or bi-directional amplifier (BDA), combines them, and sends them to the ODU via coax. The ODU converts the RF signals to optical signals and transmits them via fiber to the ROUs. At the ROU, signals are amplified and sent via coax to the remote antennas placed throughout the building or campus. Add-on remotes can be connected to the main ROUs to support additional bands.

For the uplink path from the mobile device to the BTS or BDA, the process is reversed so that the BIU can route each frequency to the proper carrier.

The DMS-1200 is a network management device that provides remote control and monitoring of the DAS through a standard Internet connection.

The OEU is an optional fiber MUX device that is used to connect additional ROUs via fiber when extending the DAS from one building to others within the same campus.

The Link Balancer Unit is an optional DAS interface tray for attenuated downlink and uplink signals between the DAS and signal source (BTS or BDA).

The figure shows a typical system deployment.

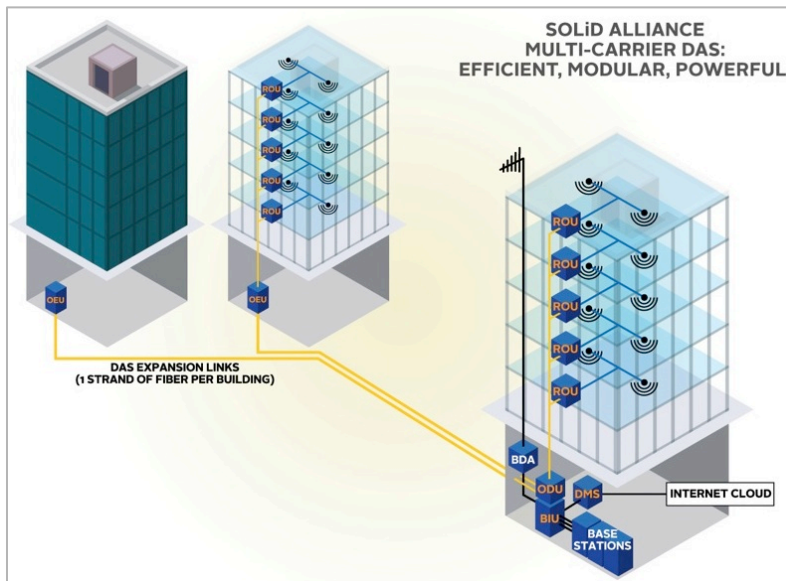
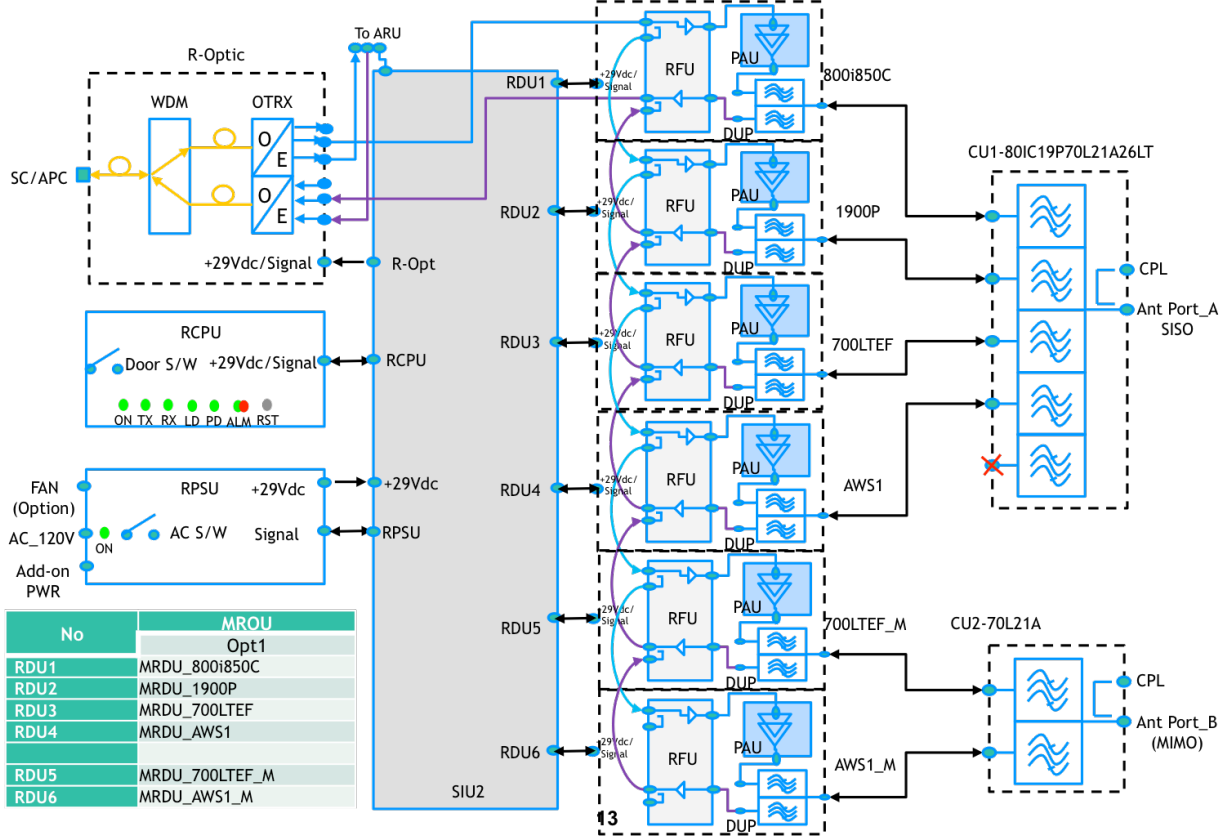


Figure.2 – ALLIANCE DAS Deployment

MRDU_AWS1 is SOLiD's 5W amplifier module that enhances AWS services. This module is used when the input signal source at the BIU is transmitting a SISO RF stream. MRDU_AWS1_M is a 2nd 5W amplifier module that enhances AWS services, however, this module is used only when the input signal source at the BIU is transmitting both a SISO and MIMO RF stream. The combination of these modules in the 5W remote (MROU) allows a wireless operator to extend MIMO services through the DAS. The ALLIANCE DAS keeps the MIMO and SISO stream spatially separated throughout the entire system.

The graphic below depicts the ALLIANCE 5W MROU in a configuration that supports SISO and MIMO streams in a single enclosure.

3. Block Diagram for MROU



If there is any further documentation or assistance we can provide for this matter, please do not hesitate to ask. Please consider SOLiD's past filings as an additional resource. Filings for MRDU_700LTEF and MRDU_700LTEF_M entail the same MIMO terminology and concept.

Sincerely,

Kevin Vierling

Director of Product Management