



ClearFill®Space1 is the world's ultimate indoor coverage solution that meets any RF distribution needs – from simple entry-level systems to the most complicated, complex applications.

ClearFill®Space1 is a modular RF-over-fiber distribution system that provides reliable and highest quality indoor coverage of 2G and 3G wireless services in airports, hospitals, campus, enterprises, convention centers, high-rise buildings and tunnels.

Minimizing your design efforts, ClearFill®Space1 comes as a plug-and-play, mid-power fiber-optical RF repeater system. It consists of two easy-to-install and easy-to-maintain components: master unit (MU) and remote unit (RU), connected via a fiber-optic link of up to 5 km (3 miles). Three types of RF broadband MU – feeding one, two or four RU each -- provide a high level of flexibility to reduce CAPEX spending.

The RU are innovative, FCC compliant fiber-fed RF amplifiers available for PCS, CDMA as well as AWS bands. The system supports all types of modulation (e.g. GSM, CDMA). The automatically leveled composite output power (22dBm) of RU guarantees best cost-for-coverage.

ClearFill®Space1 System Elements



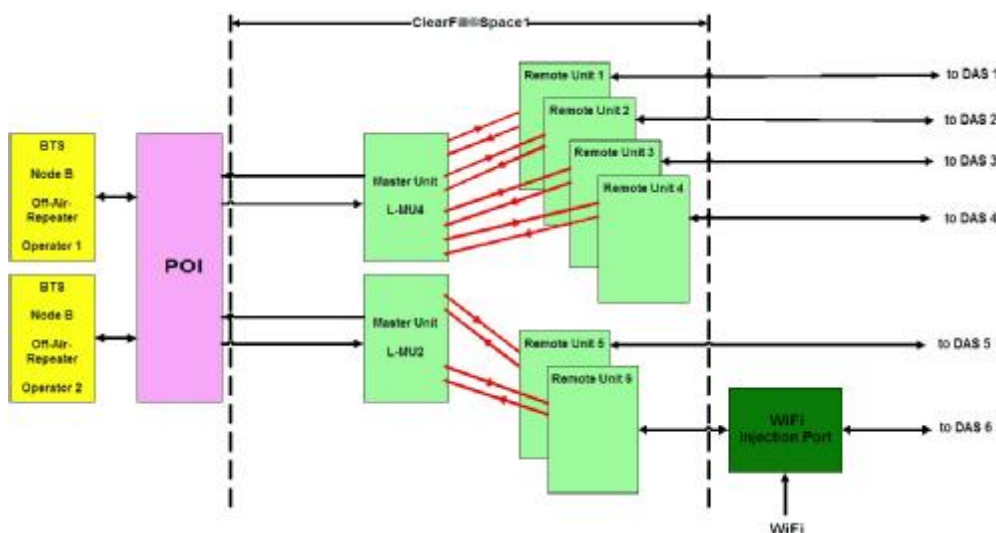
Master Unit Model No.

- L-MU4
- L-MU2
- L-MU1

Remote Unit Model No.

- L-RU800-2
- L-RU1900-2
- L-RU1721-2

The flexible system design is applicable from easiest to the most complex topologies.





Functions

- Automatic level control in uplink and downlink
- Plug & Play functionality allows for easy installation and commissioning
- Fixed output power level in downlink
- Limiter function to protect the laser against high power levels
- Visualization of link failure at MU location
- Up to 4 remote units per master unit

Compliance

All components are compliant with the following standards

Safety		IEC / EN60950
RF		FCC Part 2, 15, 22, 24, 90
Optic	Laser Diode	according to IEC / EN 60 825 – 1, class 1
	Fiber Optic Link	according to IEC / EN 60 825 – 2

Technical Data ClearFill®Space1

Standard	CDMA800	PCS1900	AWS
Frequency Range in Uplink	824 – 849 MHz	1850 – 1910 MHz	1710 – 1755 MHz
Frequency Range in Downlink	869 – 894 MHz	1930 – 1990 MHz	2110 – 2155 MHz
Downlink composite output power	22 dBm (typ.)	22 dBm (typ.)	22 dBm (typ.)
Maximum spurious emission	< -30dBm	< -30dBm	< -30dBm
RF link gain	DL 17dB, UL 16dB, nominal		
RF input level at MU in DL	+5 dBm ±2 dB, max. +15 dBm		
RF input level at RU in UL	-35 to -55 dBm in ALC mode, < -55dBm in linear mode		



Master Unit	
Type of MU	L-MU1, L-MU2, L-MU4
Operating frequency band	800-2200 MHz (Extension to 2500 MHz with reduced performance)
Number of RF connectors	2 (RF IN/DL and RF OUT/UL)
RF impedance	50 Ohm
RF connector type	SMA-female
Return loss at all RF ports	> 10 dB
Alarm interface	Indicate with LED and data interface
Data Interface (connector, type, status)	RJ-45 / Dry contacts / Closed if OK
Power supply	AC 115/230V, 50 to 60 Hz
Power consumption	L-MU1: < 15W, L-MU2: < 30W, L-MU4: < 55W
Dimensions	19"/2U rack, depth: 300 mm, RAL9005, IP20
Weight	4kg approx.
Temperature range	-10° to +50°C operate, -20° to +75°C storage, 0%-90% non-condensing
Remote Unit	
Type of RU	L-RU800-2, L-RU1900-2, L-RU1721-2
Number of RF connector type	1 (duplexed RF)
RF impedance	50 Ohm
RF connector Type	N-female
Return loss	> 10 dB
Alarm interface	LED
Power supply	AC 115/230V, 50 to 60 Hz
Power consumption	< 30W
Dimensions	320mm x 240mm x 70mm, RAL9005
Sealing class	IP54, upgrade to IP65 possible
Weight	5.6 kg approx.
Mounting	Wall mounting set enclosed (4 screws, 4 washer, 4 dowels)
Optical Link	
Fiber optic type	Mono mode, 9/125
Number of Fibers	2 (one for UL, one for DL)
Optical connectors	SC / APC
Wavelength	1310 nm
Optical Distance (without degradation)	Max. 5 km (3 miles)