

## Low Power

All-Digital Transport System | IP, Cellular & PMR | 27dBm per Band



Access Unit



Expansion Unit

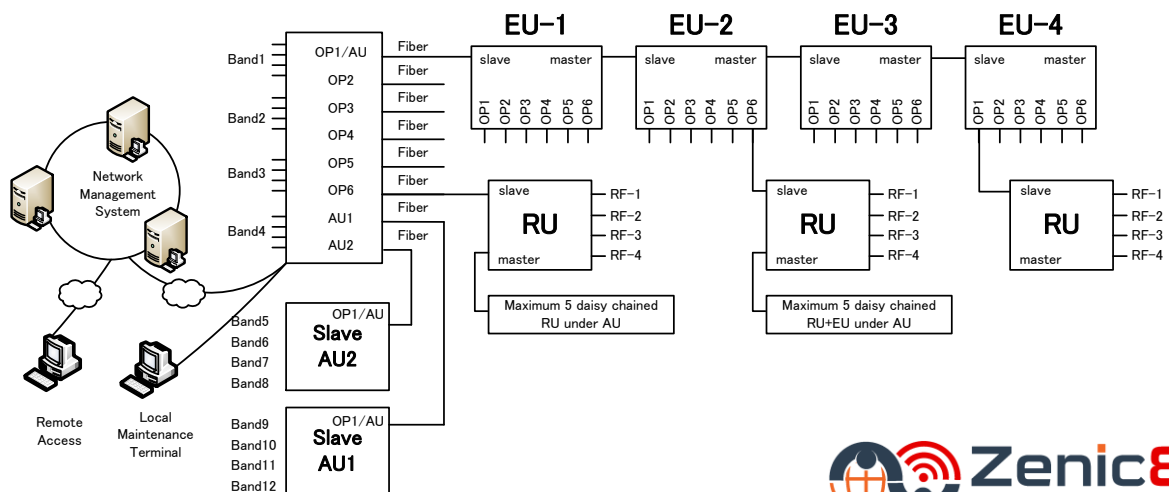


Remote Unit

## Features

- Active Distributed Antenna System
- Wireless Technologies in SISO and MIMO configurations
- All 3GPP Bands supported
- WiFi and Gigabit Ethernet Connectivity
- Up to 12 discrete Bands on a single fibre cable
- 27dBm Output Power per Band
- Flexible and Module Structure
- Integrated NMS on all system elements

## Block Diagram



SYSTEM SPECIFICATION	
Maximum RF Bands per AU	4
Maximum RF Bands per System	12
Maximum AU per System	3 (1 x Master / 2 x Slaves)
Maximum EU per Master AU	6
Maximum EU cascaded to EU	4
Maximum RU per EU (No cascaded RUs)	6
Maximum RU cascaded to RU (RU connected to AU)	5
Bandwidth per Band (Downlink or Uplink)	≤80MHz (Contiguous)
Bandwidth per System (Downlink or Uplink)	≤200MHz (per Fibre)
Frequency Range (Non Contiguous)	700MHz - 2700MHz
MIMO	2x2 or 4x4
IP Transmission Rate	≤1Gbps (100Mbps standard)
Maximum IP Connections per EU	6
Maximum IP Connections per RU	1
Maximum CPRI Connections per AU	2 (via Slave AU ports)

MECHANICAL SPECIFICATION	
Antenna Interface	N Female
AU RF Interface	SMA Female
Optical Connector Type	SFP+, Standard LC (Simplex or Duplex)
Optical Transmission Rate	9.8304 Gbps
Optical Fiber Length	1.4km / 10km / 40km 0.87mi / 6.21mi / 24.86mi
Physical Alarms	DB9, Female (4x in, 4x out)
Maintenance Interface	Ethernet RJ45 / WiFi / USB
Maintenance Interface Reset	Software Reset

ELECTRICAL SPECIFICATION					
Electromagnetic Compatibility/Interference (EMC/EMI)	3GPP TS36.113   3GPP TS25.113				
Maximum Power Consumption (AU/EU/RU)	80W / 50W / 100W				
AC Power	100-240v, 50/60Hz   -48VDC				
<b>Forward Path (Downlink)</b>					
Output Power per Carrier	No. of Carriers	1	2	4	8
	UMTS (dBm)	27	24	21	18
	E-UTRA (dBm)	27	24	21	18
Output Power Accuracy	±3dB				
Maximum Gain	+27dB				
Maximum Input Power	+15dBm				
System Delay (1AU+1EU+1RU)	<12μS				
<b>Reverse Path (Uplink)</b>					
Maximum Output Power per Band	-7dBm				
Output Power Accuracy	±3dB				
Maximum Gain	+43dB				
Dynamic Range (GSM/DCS)	-35dBm to -110dBm (-35dBm to -105dBm)				
Maximum Input Power	-35dBm				
System Delay (1AU+1EU+1RU)	<12μS				
Noise Figure	<6dB at maximum gain				

ENVIRONMENTAL SPECIFICATION	
Mean Time between Failure	>100,000 hours
Operating Temperature	-10°C to +45°C/14°F to +113°F
Storage Temperature	-25°C to +70°C/-13°F to +158°F
Humidity	5% to 85% (Non-Condensing)
Cooling	Natural (No Fans)
Installation (AU/EU)	Wall or 19" Rack
Installation (RU)	Wall or Pole
Ingress Protection Ratings (AU/EU)	IP30 (Indoor)
Ingress Protection Ratings (RU)	IP30 (Indoor) or IP65 (Outdoor)

ELEMENT MANAGEMENT	
Embedded Management	Yes (Web Based)
SNMP Based Management	Yes

DIMENSIONS / WEIGHT	
AU (Width/Height/Depth/Weight)	440mm / 44mm / 329mm / <8.0kg 17.32in / 1.73in / 12.95in / < 17.64lb
EU (Width/Height/Depth/Weight)	440mm / 44mm / 220mm / <5.0kg 17.32in / 1.73in / 8.66in / < 11.02lb
RU Indoor (Width/Height/Depth/Weight)	440mm / 44mm / 329mm / <8.0kg 17.32in / 1.73in / 12.95in / < 17.64lb

DOCUMENT CONTROL			
Issue	Date	Author	Remarks
1	2013-09-09	Roy Lee	V2.0.1 Draft
2	2013-09-16	Xiqiang XU	V2.0.2 Reverse Path (Uplink) /system delay/ weight
3	2013-11-01	Roy Lee	V2.0.3 System Specification
4	2014-02-24	Roy Lee	Change AU dimension/Weight
5	2014-03-31	Mao Jianyang	Change images, temperature range
6	2014-04-30	Mao Jianyang	Change reverse output power to -25dBm
7	2014-05-30	Ben Patullo/Roy Lee	Update dynamic range
8	2014-12-23	Layla Wu/Allen Chu	New format, Change images and max in/out range
9	2015-01-05	Layla Wu	Update Power per Carrier

## Ordering Information

<b>Access Unit Chassis</b>	
AU-4-AC	Access Unit Chassis, Supports up to 4 Discrete Bands.
<b>Access Unit Modules - Four Duplex Input Ports</b>	
AU-AC M700L	Access Unit Module, 4 Way Active Combiner Lower 700MHz (698-716/728-746)
AU-AC M700U	Access Unit Module, 4 Way Active Combiner Upper 700MHz (776-806/746-776)
AU-AC M700 APT	Access Unit Module, 4 Way Active Combiner APT 700MHz (703-748/758-803)
AU-AC M800	Access Unit Module, 4 Way Active Combiner 800MHz (832-862/791-821)
AU-AC M850	Access Unit Module, 4 Way Active Combiner 850MHz (824-849/869-894)
AU-AC M900	Access Unit Module, 4 Way Active Combiner 900MHz (880-915/925-960)
AU-AC M1700	Access Unit Module, 4 Way Active Combiner 1700MHz (1710-1755/2110-2155)
AU-AC M1800	Access Unit Module, 4 Way Active Combiner 1800MHz (1710-1785/1805-1880)
AU-AC M1900	Access Unit Module, 4 Way Active Combiner 1900MHz (1850-1910/1930-1990)
AU-AC M2100	Access Unit Module, 4 Way Active Combiner 2100MHz (1920-1980/2110-2170)
AU-AC M2300L	Access Unit Module, 4 Way Active Combiner Lower 2300MHz (2300-2360)
AU-AC M2300U	Access Unit Module, 4 Way Active Combiner Upper 2300MHz (2360-2400)
AU-AC M2600	Access Unit Module, 4 Way Active Combiner 2600MHz (2500-2580/2620-2600)
<b>Access Unit Modules - Integrated BDA</b>	
AU-BDA M700L	Access Unit Module, Integrated BDA Lower 700MHz (698-716/728-746)
AU-BDA M700U	Access Unit Module, Integrated BDA Upper 700MHz (776-806/746-776)
AU-BDA M700 APT	Access Unit Module, Integrated BDA APT 700MHz (703-748/758-803)
AU-BDA M800	Access Unit Module, Integrated BDA 800MHz (832-862/791-821)
AU-BDA M850	Access Unit Module, Integrated BDA 850MHz (824-849/869-894)
AU-BDA M900	Access Unit Module, Integrated BDA 900MHz (880-915/925-960)
AU-BDA M1700	Access Unit Module, Integrated BDA 1700MHz (1710-1755/2110-2155)
AU-BDA M1800	Access Unit Module, Integrated BDA 1800MHz (1710-1785/1805-1880)
AU-BDA M1900	Access Unit Module, Integrated BDA 1900MHz (1850-1910/1930-1990)
AU-BDA M2100	Access Unit Module, Integrated BDA 2100MHz (1920-1980/2110-2170)
AU-BDA M2300L	Access Unit Module, Integrated BDA Lower 2300MHz (2300-2380)
AU-BDA M2300U	Access Unit Module, Integrated BDA Upper 2300MHz (2320-2400)
AU-BDA M2600	Access Unit Module, Integrated BDA 2600MHz (2500-2580/2620-2600)
<b>Low Power Remote Unit - Indoor</b>	
LPRU-ID-4-AC	Indoor Low Power Remote Unit Chassis, Supports up to 4 Discrete Bands
LPRU-ID-M700L	Indoor Low Power Remote Unit Module, Lower 700MHz FDD/TDD (698-716/728-746)
LPRU-ID-M700U	Indoor Low Power Remote Unit Module, Upper 700MHz FDD/TDD (776-806/746-776)
LPRU-ID-M700APT	Indoor Low Power Remote Unit Module, APT 700MHz FDD/TDD (703-748/758-803)
LPRU-ID-M800	Indoor Low Power Remote Unit Module, 800MHz FDD/TDD (832-862/791-821)
LPRU-ID-M850	Indoor Low Power Remote Unit Module, 850MHz FDD/TDD (824-849/869-894)
LPRU-ID-M900	Indoor Low Power Remote Unit Module, 900MHz FDD/TDD (880-915/925-960)
LPRU-ID-M1700	Indoor Low Power Remote Unit Module, 1700MHz FDD/TDD (1710-1755/2110-2155)
LPRU-ID-M1800	Indoor Low Power Remote Unit Module, 1800MHz FDD/TDD (1710-1785/1805-1880)
LPRU-ID-M1900	Indoor Low Power Remote Unit Module, 1900MHz FDD/TDD (1850-1910/1930-1990)
LPRU-ID-M2100	Indoor Low Power Remote Unit Module, 2100MHz FDD/TDD (1920-1980/2110-2170)
LPRU-ID-M2300L	Indoor Low Power Remote Unit Module, Lower 2300MHz FDD/TDD (2300-2380)
LPRU-ID-M2300U	Indoor Low Power Remote Unit Module, Upper 2300MHz FDD/TDD (2320-2400)
LPRU-ID-M2600	Indoor Low Power Remote Unit Module, 2600MHz FDD/TDD (2500-2580/2620-2600)
<b>Low Power Remote Unit - Outdoor</b>	
LPRU-OD-2-AC	Outdoor Low Power Remote Unit Chassis, Supports up to 2 Discrete Bands
LPRU-OD-4-AC	Outdoor Low Power Remote Unit Chassis, Supports up to 4 Discrete Bands
LPRU-OD-M700L	Outdoor Low Power Remote Unit Module, Lower 700MHz FDD/TDD (698-716/728-746)
LPRU-OD-M700U	Outdoor Low Power Remote Unit Module, Upper 700MHz FDD/TDD (776-806/746-776)
LPRU-OD-M700APT	Outdoor Low Power Remote Unit Module, APT 700MHz FDD/TDD (703-748/758-803)
LPRU-OD-M800	Outdoor Low Power Remote Unit Module, 800MHz FDD/TDD (832-862/791-821)
LPRU-OD-M850	Outdoor Low Power Remote Unit Module, 850MHz FDD/TDD (824-849/869-894)
LPRU-OD-M900	Outdoor Low Power Remote Unit Module, 900MHz FDD/TDD (880-915/925-960)
LPRU-OD-M1700	Outdoor Low Power Remote Unit Module, 1700MHz FDD/TDD (1710-1755/2110-2155)
LPRU-OD-M1800	Outdoor Low Power Remote Unit Module, 1800MHz FDD/TDD (1710-1785/1805-1880)
LPRU-OD-M1900	Outdoor Low Power Remote Unit Module, 1900MHz FDD/TDD (1850-1910/1930-1990)
LPRU-OD-M2100	Outdoor Low Power Remote Unit Module, 2100MHz FDD/TDD (1920-1980/2110-2170)
LPRU-OD-M2300L	Outdoor Low Power Remote Unit Module, Lower 2300MHz FDD/TDD (2300-2380)
LPRU-OD-M2300U	Outdoor Low Power Remote Unit Module, Upper 2300MHz FDD/TDD (2320-2400)
LPRU-OD-M2600	Outdoor Low Power Remote Unit Module, 2600MHz FDD/TDD (2500-2580/2620-2600)