Spectrum-DMR4X
NGN Radio System

High Capacity SDH Microwave Radio Links

(5.8, 7/8, 11, 13, 15, 18, 23, 26, 38GHz)

Spectrum DMR4X is a compact (only 1U), high density and carrier-class multi-service access equipment. It's mainly designed to fully utilize the present SDH network resource to provide heavy traffic service access for the Carrier. Its service interfaces cover the standard STM-1 (/STM-4, Ethernet, E1, E3/DS3, V.35 and etc available Q3 2009). Among them, Ethernet interface applies the GFP framing protocol, VCAT and LCAS functionalities which complies with G.704 1 international standard.

Spectrum DMR4X provides high capacity transmission, high reliability, quick construction and strong adaptability for wireless communications networks.

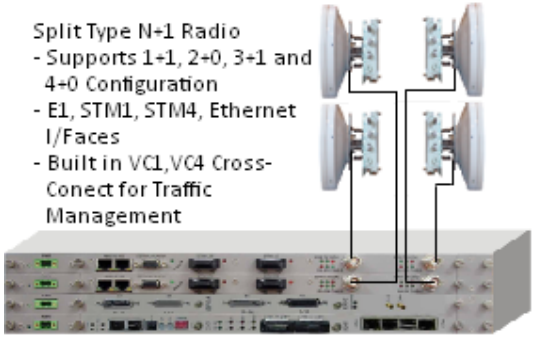
Spectrum DMR4X could support various new microwave products of Ethernet, PDH and SDH platforms. This advanced technology platform is designed to provide higher quality service to customers in the future.

Spectrum DMR4X could provide wireless transmission of data, video, voice and etc. The system could connect with main products hitless via SDH interface, work with other access network equipments, 3G mobile cellular base station, switch and router to form the network via PDH and Ethernet interfaces, and could be applied in various fields, including but not limited to, mobile network, fixed network, private network and access network.

Spectrum DMR4X can support various capacity configurations, modulation means, software controlled frequency and transmit power functionalities, which make it adaptive to global applications.

Spectrum DMR4X supports N+0, N+N N:1 and ring configurations. The modem and power supply functions are provided by applying easily replaceable plug-in modules which makes onsite upgrade and maintenance easy and convenient.

Spectrum DMR4X is also featured of complete operation, maintenance and management function so as to access different equipments to the integrated network management system.



Applications

- Wideband wireless access, wireless local loop (WLL) and access market
- Mobile cellular network, which require higher capacity due to an increase in subscriber, cell sites and data application
- Back up network for fiber optic trunk links.
- Private and Enterprises network such as educational institutions, financial institution and utility companies providing voice ATM & IP private networks

Product Features

- Up to 4 ×STM-1 Electrical or Optical interfaces
- Bandwidth capacity and modulation controlled by software
- Support 1+0, 1+1, 2+0, 2+2, 3+1, 4+0, and East/West applications
- Ring application with cross connect function
- FEC- TPC-TCM with RS code
- Field upgradeable by plug-in assembly
- RF, IF, digital loopback capability
- Wide DC power input range and low power consumption
- Delay setting for hitless (errorless) switching
- Wide operating temperature range
- Built-in BER monitor
- SNMP network management protocol

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Technical Specifications

ODU Specifications	155Mbps, 128QAM, Single Carrier								
Frequency	**5.8 GHz**	**7/8 GHz**	**11 GHz**	**13 GHz**	**15 GHz**	**18 GHz**	**23 GHz**	**26 GHz**	**38 GHz**
Standard	ETSI/ITU/FCC								
Output Power (HP) (dBm)	+5+20	+5+20	+5+20						
Output Power (SP) (dBm)				0 +16	0+16	0+15	0+15	+15	0+13
Accuracy (dB)	+/-2								
Increment (dB)	1								
RX at BER=10^{-3} (dBm)	-73	-73	-72	-72	-72	-71	-71	-71	-70
RX at BER=10^{-6} (dBm)	-70	-70	-69	-69	-69	-68	-68	-68	-67
RF Bandwidth (MHz)	28								
Flange	N-type	UBR 84	UBR 100	UBR 140	UBR 140	UBR 220	UBR 220	UBR 220	UBR 320

IF Port:	For 50Ω coaxial ODU N/IDU TNC connector, Female	**RSSI**	Output voltage vs. RSL : 03V vs. -70-25dBm
Frequency Stability	±5ppm	**RSL Accuracy**	±2 dB
Spurious Emissions	7 13 GHz: 5 to 21.2 GHz:<-50 dBm, 21.1 to 27 GHz:<-30 dBm; 13 38 GHz: 5 to 21.2 GHz:<-50 dBm, 21.1 to 79 GHz:<-30 dBm		

IDU Specifications				
SDH Interface	Max.	STM-1	4	
		STM-4		
	Interface Type		SC/PC or FC/PC	
	Interface Parameter		S-1.1, L-1.1, L-1.2, S4.1, L4.1	
	Low-level		2016*2016VC12s (under development)	
NMS Port	Interface		10/100 Base-T (stackable)	
Orderwire Port	Interface		Standard RJ11	
System Specifications				
System Configuration	1+0, 1+1, Space Diversity, Frequency Diversity, 2+0, 2+2,3+1, 4+0 or East/West			
NMS	SNMP or Telnet			
Temperature	IDU: -5~ 55℃; ODU: -35~ +55℃		**Elevation above sea level**	15,000ft / 4572 meters
Humidity	IDU: 0 ~ 95%, no condensation; ODU: all weather			
Weight (kg) & Dimension (mm):	IDU: 7.5/445x238.5x89 ; ODU: 3.0~3.5/225×225×90			
Power Supply	Power Type		-48V DC /220V AC	
	Power Consumption		1+0≤95W	1+1≤95W

*** DMR4X will Support E1, STM4 and 1/0 DXC by mid 2009.**

*** 56MHz BW and ACM function will be available next year.**

***All specifications are typical values and subject to change without prior notice.**