



11-GHz High-Capacity Synchronous Radio

MDR-4X11s

Features

- ▼ True SONET transport
- ▼ Capacities to fit your needs:
 - 1, 2, 3 STS-1s
 - DS3 or STS-1 provisionable per port
- ▼ In-service capacity upgrades
 - From 1 to 2 STS-1s
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- ▼ Wayside DS1 lines
 - One per STS-1
- ▼ Automatic transmit power control
- ▼ Regenerative repeater configuration
- ▼ Errorless receiver switching
- ▼ 802.3 LAN (TL1) interfaces for intraoffice DCC connectivity
- ▼ BITS clock capability

▼
ALCATEL
NETWORK SYSTEMS

Technical Summary

	<u>MDR-4111s-D</u>	<u>MDR-4211s-D</u>	<u>MDR-4311s-D</u>
Frequency Band (GHz)	10.7 – 11.7 GHz	10.7 – 11.7 GHz	10.7 – 11.7 GHz
Emission Designator	10M0D7W	20M0D7W	30M0D7W
Nominal Emission Bandwidth (MHz).....	10	20	30
Capacity/RF Channel	1xSTS-1	2xSTS-1	3xSTS-1
Capacity/RF Channel (Mb/s)	52	104	155
Wayside DS1 Lines Capacity	1	2	3
Modulation.....	128 TCM	128 TCM	128 TCM
Data Efficiency (b/s/Hz).....	5.9	5.9	5.9
Data Rate (Mb/s).....	59.003	117.999	176.994
System Gain (Ber 10^{-3}) ^(1,2)			
Standard SSPA (dB)	104.5	101.5	99.0
High Power (dB)	108.5	105.5	103.0
Transmit Frequency Stability	0.002%	0.002%	0.002%
Transmitter Power Output ⁽¹⁾			
Standard SSPA (dBm).....	28.5	28.5	28.5
High Power (dBm)	32.5 TWT	32.5 TWT	32.5 TWT
Receiver Threshold (BER 10^{-3}) ^(1,2)			
Typical (dBm).....	-76.0	-73.0	-70.5
Guaranteed (dBm).....	-73.5	-70.5	-68.0
Receiver Threshold (BER 10^{-6}) ^(1,2)			
Typical (dBm).....	-73.5	-70.5	-68.0
Guaranteed (dBm).....	-71.0	-68.0	-65.5
Dispersive-Fade Margin BER 10^{-3} (dB) ⁽⁴⁾	58/56	50/48	46
Power Consumption (watts) ⁽³⁾			
Hot-standby Terminal	375	385	390
1+1 Freq. Div. Terminal	405	410	320

STS-1 Line Interfaces:	ANSI T1X1.4/91-004R3
Line Rate (Mb/s)	51.84 ±20 ppm
Line Code	B3ZS
Impedance (ohms)	75
DS3 Line Interfaces	ANSI T1X1.4/91-004R3
Line Rate (Mb/s)	44.736 ±20 ppm
Line Code	B3ZS
Impedance (ohms)	75
Timing	
External Input	DS1 BITS clock
Frequency	1.544 MHz ±4.6 ppm
Format	RZ
Line Coding	B8ZS or Bipolar AMI
Pattern	All one's framed or PRBS
Internal Free-running Accuracy	±20 ppm
Output	1.544 MHz DS1 as above
Accuracy (Internal ref.)	±20 ppm
Accuracy (External ref.)	±4.7 ppm

¹Typical as measured at the antenna port of branching circulator (includes branching losses).

²Hot-standby configurations (without space diversity): 0.5 dB less receiver threshold and system gain on the A side and 10 dB less on B side due to 1:10 coupler.

³Nominal without APC active (full transmit power), standard PA.

⁴Higher value with IF amplifier bandwidth matching emission bandwidth and automatic slope equalization (ASE) enabled. Lower with 30 MHz IF and ASE disabled.

Preliminary – Subject to change without notice.