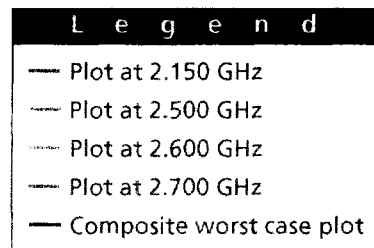
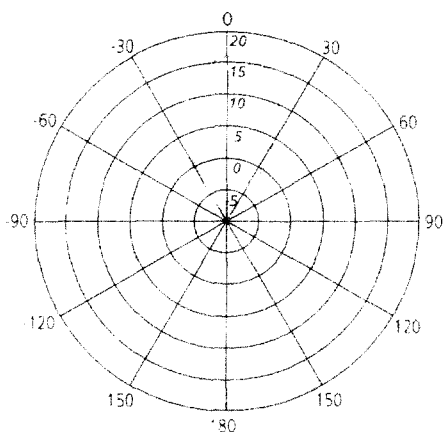


Planar Array

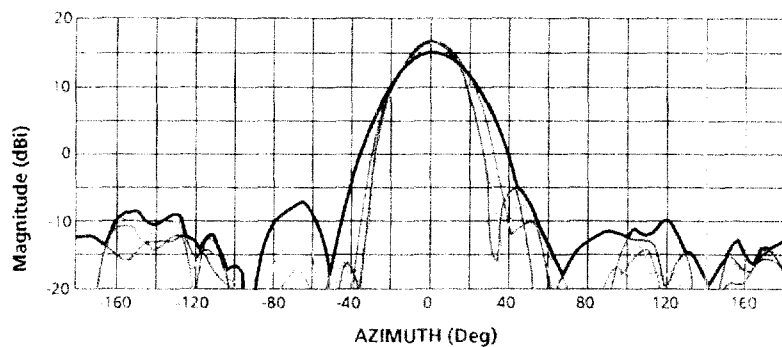
Antenna Patterns



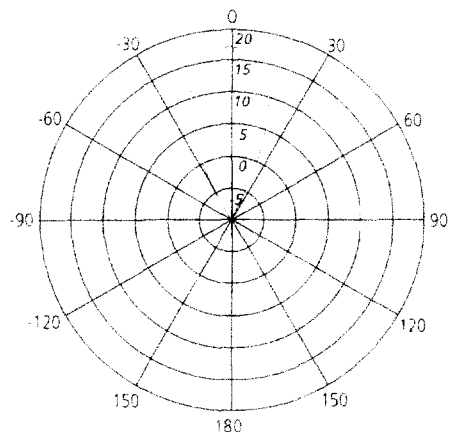
Planar Array Horizontal
2500 MHz



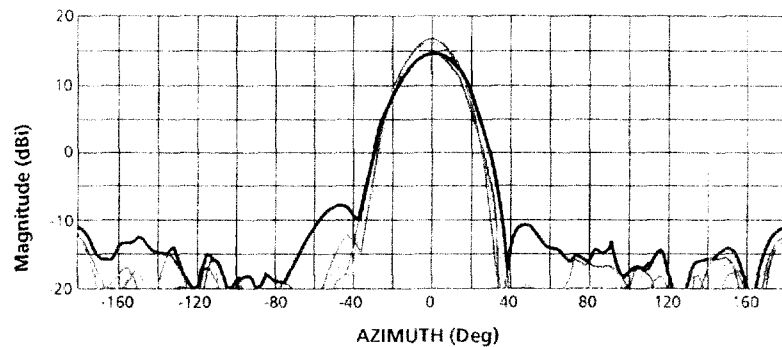
Planar Array
Composite Antenna Pattern
Horizontal Polarity



Planar Array Vertical
2500 MHz



Planar Array
Composite Antenna Pattern
Vertical Polarity



Planar - 33SG: 33 Channel Filtered Downconverter/Antenna With Selectable Gain
 Planar - 33SGL: 33 Channel Filtered Downconverter/Antenna
 Planar - 31SG: 31 Channel Filtered Downconverter/Antenna With Selectable Gain
 Planar - 31HG: 31 Channel Filtered Downconverter/Antenna
 Planar - 31LG: 31 Channel Filtered Downconverter/Antenna

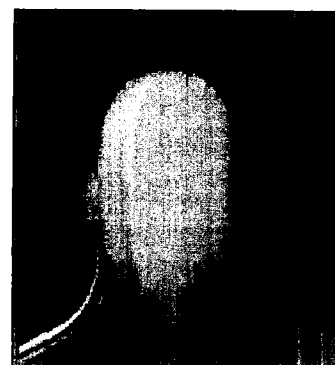
Typical Operating Specifications

Parameter	Minimum	Maximum
Input Frequency (MMDS)	2500 MHz	2686 MHz
Input Frequency (MDS) *	2150 MHz	2162 MHz
Temperature Range	-40° C	+70° C
Humidity	0%	100%
Input Voltage	14 VDC	24 VDC

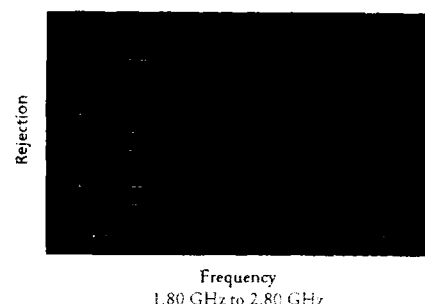
Typical Electrical Performance

Parameter	
Integrated Gain at Low/High Gain Setting (SG)	36/48 dB
Integrated Gain at Low/High Gain Setting (SGI)	28/40 dB
Integrated Gain (HG)	52 dB
Integrated Gain (LG)	36 dB
Output Frequency (MMDS)	222-408 MHz
Output Frequency (MDS) *	116-128 MHz
Output Impedance	75 ohms
Return Loss	>14 dB
Gain Flatness (1 ch)	+/- .20 dB
Gain Flatness (MDS & MMDS)	+/- 1.1 dB
Noise Figure (SG - High Gain/Low Gain)	1.2dB/3.5 dB
Noise Figure (HG/LG)	1.2dB/3.5 dB
LO Frequency	2278 MHz
LO Frequency Over Temperature	+/- 25 KHz
LO Leakage IF Port	-45 dBm
LO Antenna Leakage	-90 dBm
Phase Noise @ 100 Hz Offset	-68 dBc/Hz
@ 1 KHz Offset	-88 dBc/Hz
@ 10 KHz Offset	-96 dBc/Hz
@ 100 KHz Offset	-116 dBc/Hz
@ >1.0 MHz	<-136 dBc/Hz
Image Rejection (MDS & MMDS)	>60 dB
Minimum PCS Rejection (1930-1990 MHz)	>100 dB
Third Order IM @ Low Gain Setting	-50 dBc @ -10 dBm output
@ High Gain Setting	-60 dBc @ -10 dBm output
P _{1dB} Output Power (31 & 33 channel)	+12 dBm
Input Current	200 mA
Spurious in IF band	<-100 dBm
Group Delay Variation (6MHz)	<+/- 3 nsec
Radar Pulse Recovery Time	<15 usec
Lightning Protection	Meets IEEE Standards
Antenna Specifications	
Antenna Gain	16 dBi
Antenna Front to Back Ratio	>25 dB
Antenna Side Lobe Levels	>26 dB
Antenna Cross Polarization	>25 dB

* 33 Channel only



PCS Rejection



LO Phase Noise

