

D750 Series Ku-band Downconverters

INPUT SPECIFICATION		Options
1. Frequency range:	10.7 to 12.75GHz (check model table)	
2. Connector:	N-type	SMA
3. Impedance:	50Ω	
4. Return loss:	≥20dB	
OUTPUT SPECIFICATION		
5. Frequency range:	70 ± 20MHz or 140 ± 40MHz (check model table)	
6. Connector:	BNC	TNC
7. Impedance:	50Ω	75Ω
8. Return loss:	≥15dB	≥20dB (*)
9. 1dB compression point:	+10dBm	
10. Third order intercept::	+20dBm	
TRANSFER CHARACTERISTICS		
11. Gain:	30 to 50dB, adjustable in 0.1dB steps	
	Note: absolute gain setting has an overall uncertainty of ±1dB	
12. Gain ripple:	over ±40MHz: ≤1dB p.t.p. over input band: ≤4dB p.t.p	
13. Group delay distortion:	over ±5MHz <2ns over ±20MHz <5ns	
14. Gain stability, 0°C to 50°C:	±1dB	
15. Frequency stability, 0°C to 50°C:	10 ⁻⁷	Option 2: 10 ⁻⁸ Option 3: 3 x 10 ⁻⁹
16. External reference:	10MHz, 0dBm	5MHz, 0dBm
17. Synthesiser step size:	1kHz	
18. Noise figure (full gain):	<17dB	
Spurii		
19. Image rejection:	>75dB	
20. In-band spurii (at 0dBm output):	<-60dBc	
PHASE NOISE		
21. 10Hz:	<-45dBc/Hz	
22. 100Hz:	<-70dBc/Hz	
23. 1kHz:	<-80dBc/Hz	
24. 10kHz:	<-85dBc/Hz	
25. 100kHz:	<-95dBc/Hz	
26. 1MHz:	<-110dBc/Hz	
27. Mains related:	<-60dBc	
MISCELLANEOUS		
28. Power supply:	115V/230V ±10% 50/60Hz ±10%, 30VA	
29. Mechanical:	1U 19" frame, 400mm deep	
30. Temperature:	Operating: 0° to 50°C Storage: -40° to 85°C	
31. Relative humidity:	Operating: 0 to 90% Storage: 0 to 95%	
32. Summary alarm:	NO and NC dry relay contacts via rear mounted connector	
33. Summary alarm indication:	Front panel LED	
34. Remote control:	<ul style="list-style-type: none"> • RS232 or RS422/RS485, connector D-type 9P F • Serial emulation over TCP/IP, connector RJ45 • SNMP and HTTP over TCP/IP Ethernet, connector RJ45 	

(*) Output compression point and overall gain decrease by 3dB.

MODEL TABLE

Input Frequency	Output frequency and bandwidth		
	70 ± 20MHz	140 ± 40MHz	70 ± 20MHz, 140 ± 20MHz and ±40MHz
10.95 - 11.7GHz	D750	D755	D770
11.7 - 12.25GHz	D751	D756	D771
12.25 - 12.75GHz	D752	D757	D772
10.7 - 12.75GHz	D753	D758	D773
10.7 - 11.7GHz	D754	D759	D774

Notes on absolute gain setting and gain variation across the band

Absolute gain setting (§ 11) has an overall uncertainty of $\pm 1\text{dB}$. Absolute gain setting (§ 11) and gain variation over whole band (§ 12) add to a maximum gain uncertainty of $\pm 3\text{dB}$ for all frequency and IF band / bandwidth settings. When all frequencies and all IF band / bandwidth settings are considered the maximum gain may be between 47dB and 53dB and the minimum gain between 33dB and 27dB. This includes spread of gains between different units of the same model. The difference between the highest maximum gain and the lowest minimum gain is always less than 26dB. The difference between the lowest maximum gain and the highest minimum gain is always more than 14dB. These spreads are worst cases. For a given unit at a given frequency and a given IF band / bandwidth setting difference between maximum and minimum gain is always $20 \pm 0.5\text{dB}$.