

U650 Series

X-band Upconverters

| INPUT SPECIFICATION | | Options |
|---------------------------------------|--|--|
| 1. Frequency range: | 70 ± 20MHz or 140 ± 40MHz (check model table) | |
| 2. Connector: | BNC | TNC |
| 3. Impedance: | 50Ω | 75Ω |
| 4. Return loss: | ≥15dB | ≥20dB (*) |
| OUTPUT SPECIFICATION | | |
| 5. Frequency range: | 7.9 to 8.4GHz | |
| 6. Connector: | N-type | SMA |
| 7. Impedance: | 50Ω | |
| 8. Return loss: | ≥20dB | |
| 9. 1dB compression point: | +10dBm | |
| 10. Third order intercept:: | +20dBm | |
| 11. Output mute: | Front panel, parallel and serial interface >90dB at max gain, >60dB at min gain | |
| TRANSFER CHARACTERISTICS | | |
| 12. Gain: | 0 to 30dB, adjustable in 0.1dB steps | |
| 13. Gain ripple: | over ±20MHz: ≤1dB p.t.p. over output band: ≤3dB p.t.p | |
| 14. Group delay distortion: | over ±5MHz <2ns over ±20MHz <5ns | |
| 15. Gain stability, 0°C to 50°C: | ±1dB | |
| 16. Frequency stability, 0°C to 50°C: | 2 x 10 ⁻⁷ | Option 1: 10 ⁻⁷ Option 2: 10 ⁻⁸ Option 3: 3 x 10 ⁻⁹ |
| 17. External reference: | 10MHz, 0dBm | 5MHz, 0dBm |
| 18. Synthesiser step size: | 1kHz | |
| 19. Noise figure (full gain): | <20dB | |
| Spurii | | |
| 20. Image rejection: | >75dB | |
| 21. In-band spurii (at 0dBm output): | <-60dBc | |
| PHASE NOISE | | |
| 22. 10Hz: | <-45dBc/Hz | |
| 23. 100Hz: | <-70dBc/Hz | |
| 24. 1kHz: | <-80dBc/Hz | |
| 25. 10kHz: | <-85dBc/Hz | |
| 26. 100kHz: | <-95dBc/Hz | |
| 27. 1MHz: | <-110dBc/Hz | |
| 28. Mains related: | <-60dBc | |
| MISCELLANEOUS | | |
| 29. Power supply: | 115V/230V ±10% 50/60Hz ±10%, 30VA | |
| 30. Mechanical: | 1U 19" frame, 400mm deep | |
| 31. Temperature: | Operating: 0° to 50°C Storage: -40° to 85°C | |
| 32. Relative humidity: | Operating: 0 to 90% Storage: 0 to 95% | |
| 33. Summary alarm: | NO and NC dry relay contacts via rear mounted connector | |
| 34. Summary alarm indication: | Front panel LED | |
| 35. Remote control: | RS232/RS485 serial interface | |

(*) Noise figure increases by 3dB, overall gain decreases by 3dB.

MODEL TABLE

| Output Frequency | Input frequency and bandwidth | | |
|------------------|-------------------------------|-------------|---------------------------------------|
| | 70 ± 20MHz | 140 ± 40MHz | 70 ± 20MHz, 140 ± 20MHz and ±40MHz |
| 7.9 - 8.4GHz | U651 | U656 | U671 |