Single Channel VME Microwave Tuner

|  |  |  |
| --- | --- | --- |
| **S. No.** | **Specifications** | |
|  | **RF Input** | |
| 1. | Frequency Range | 0.5 to 18 GHz |
| 2. | Tuning Step Size (Max) | 100 KHz |
| 3. | Connector Type | Single SMA Female |
| 4. | Input Impedance | 50 Ohm |
| 5. | Maximum RF Input power without  damage | +10 dBm |
| 6. | Input 1dB compression point (Min) | -11 dBm |
| 7. | Input VSWR (Max) | 2.5:1 |
|  | **Spurious Performance** | |
| 8. | Image rejection (Min) | 70 dB |
| 9. | LO Spurious | ≤-55 dBc, > I kHz offset |
| 10. | Internally generated spurious (within the  IF bandwidth) | ≤-90 dBm equivalent input level |
| 11. | LO Leakage | ≤-80 dBm at the RF input |
| 12. | Third order input intercept point | ≥-5 dBm |
|  | **Frequency Reference** | |
| 13. | Reference Stability | ± 1 ppm over the temp. range (0° C to +50°  C) |
|  | **IF Outputs** | |
| 14. | 1 GHz IF (3dB BW) | ≥500MHz |
| 15. | 160 MHz IF (3dB BW) | ≥ 40 MHz |
| 16. | Noise Figure (max) | 16 dB |
| 17. | Connector type | Single SMA Female (Mux IF), or  Two SMA Female (one for 1 GHz IF and  one for 160MHz IF) |
| 18. | RF to IF Gain | 20 dB ± 1.5dB at center frequency |
| 19. | 1 GHz IF passband flatness | ± 2dB (pk-pk) |
| 20. | 160 MHz IF passband flatness | ± 1dB (pk-pk) |
| 21. | IF Attenuation | 20 dB at maximum I dB step |
| 22. | Phase noise (typical) | -85dBc/Hz at 1kHz offset  -100dBc/Hz at 10kHz offset  -110dBc/Hz at 100kHz offset |
| 23. | Log video | 0.5 to 2.5 V output, for full dynamic  range, for 160MHz IF or Multiplexed for  1GHz IF and 160MHz IF |
|  | **Control Characteristics** | |
| 24. | Backplane control interface | VME |
| 25. | Front-panel control interface | Serial |
| 26. | Internal frequency scan | Yes (Step and Sweep) |
| 27. | BITE | Facility to perform built-in-test during  power-up and on command |

|  |  |  |
| --- | --- | --- |
|  | **Mechanical** | |
| 28. | Operating power | VME bus power (P1 & P2) |
| 29. | Power consumption | < 65 Watts |
| 30. | Size | Maximum 2 slots, 6U VME |
| 31. | Weight | < 7 lbs (3.2 kg) (2 slots)  < 7 lbs (3.2 kg) (2 slots) |
| 32. | Operating temperature | 00  to + 500 C |
| 33. | Storage temperature | -200 to +850 C |
| 34. | Altitude | 10,000 ft. |
| 35. | Type of Cooling | Air Cooled |
|  | **Environmental and EMUEMC Specifications** | |
| 36. | Environmental | The Tuner should meet the airborne  environmental specifications as per MIL‑  STD 810E when mounted in a standard  VME enclosure |
| 37. | EMI/EMC | The Tuner should meet the MIL-STD  461E when mounted in a standard VME  Enclosure |
|  | **Driver Software** & **Documents** | |
| 38. | Driver Software | CD containing VME Driver Software for  Windows OS |
| 39. | Utilities | CD containing diagnostic utilities to test  the Tuner |
| 40. | Documents | Test procedure, Test data records,  Operating and Maintenance Manuals to  be supplied |
| 41. | Warranty | 1 Year |