Quantic™ MWD

TEL (949) 679-7788
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Datasheet

MDS-500

Frequency Synthesizer:
45MHz to 16GHz

Product Features

MDS-500 Frequency Synthesizer

- Low Phase Noise
- Fixed frequency set at factory from .07 to 16 GHz,
- Tunable in the field through USB from 2GHz to 16GHz.
- Standard Temp Range: 0° to 75° C
  - Extended: -40 ° to 85° C
- +/-1ppm frequency stability over extended temperature range
  - Optional temperature compensation is available for tighter stability.
- Automatic switch-over between external and internal reference.
- Optional dual loop PLL for external references down to 5MHz.
- Optimizable filters in the factory for very low harmonic content at fixed frequency

Quantic MWD MDS-500 is a frequency synthesizer that covers the entire frequency range from 45 MHz to 16 GHz. Its extended operating temperature range is from -40° to +85° C, and it includes features, such as internal voltage regulator, low phase noise, low spurious and harmonic productions, and low microphonics.
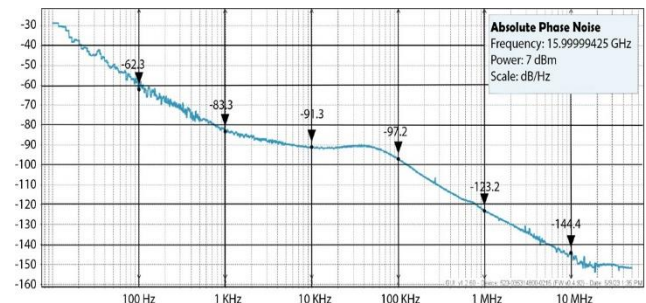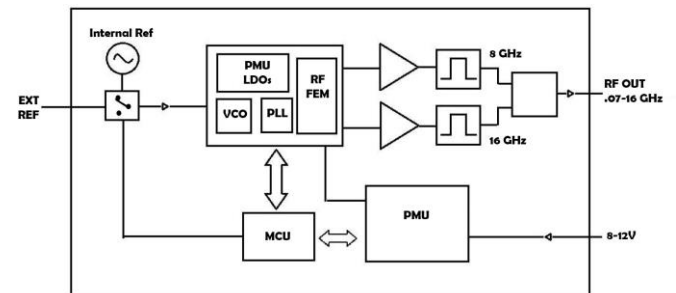
Applications

- Satellite Communications
- Space, Military, Industrial
- Transmitters/Receivers
- Up/Down Converters
- Test Equipment

Specifications

Electrical

Parameter	Unit of Measure	Value
Fixed Frequency	GHz	.07 to 16
Field Tuning Range	GHz	2 to 16
Minimum Power Output	dBm	+16
Input VSWR	:1	2.0
Output VSWR	:1	2.0
Frequency Stability	ppm/°C	±0.02
Spurious	dBc	-60
Harmonics	dBc	-30
10KHz offset Phase Noise at 16 GHz	dBc/Hz	-90
Voltage	VDC	+6 to +15
Current, typical	mA	250

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Mechanical and Environmental

Parameter	Value
Operating Temperature	-40° to 85° C
Storage Temperature	-55° to +125° C
Connectors	SMA Female
Dimensions	2.25" x 2.25" x 0.5"
Housing Material and Finish	Aluminum, Nickel finish

Part Configurator

Part Number	Option Suffix (x)	Option	Notes
MDS-500	A	Fixed Frequency	Factory tuned to specific frequency
MDS-500	B	USB	Tunable frequency via USB
MDS-500	C	RS-422	Tunable frequency via DC power/Control, RS-422 port
MDS-500	D	Miniaturized	2"x1.8"x0.48" Form Factor. External Reference. No USB Support

MDS-500x-FF.FFFF

x = Letter from the Frequency suffix table

ff.ffff = Factory tuned to specified fixed frequency. DO NOT add frequency if Option is B or C

Example: part number for a 10.483 GHz MDS-500 operating from 0° to 50° C is MDS-500A-10.483.

Outline Drawing