



Test Data Sheet

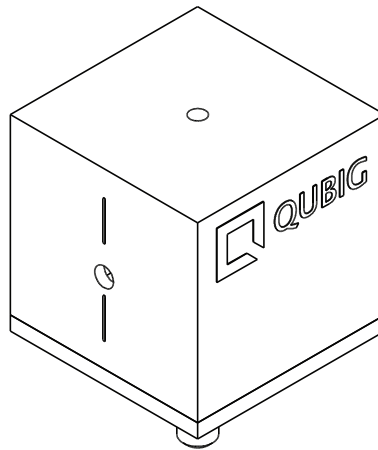
EO-Li7M3

S/N:

High-Q, resonant electro-optic phase modulator

with

- tunable resonance frequency

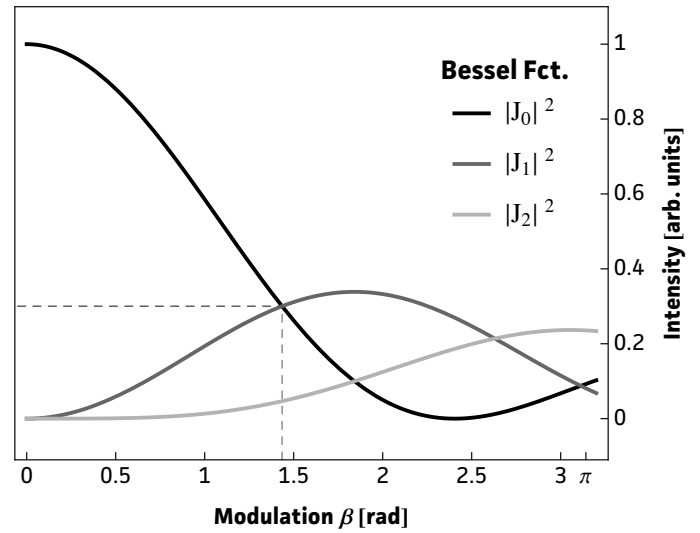
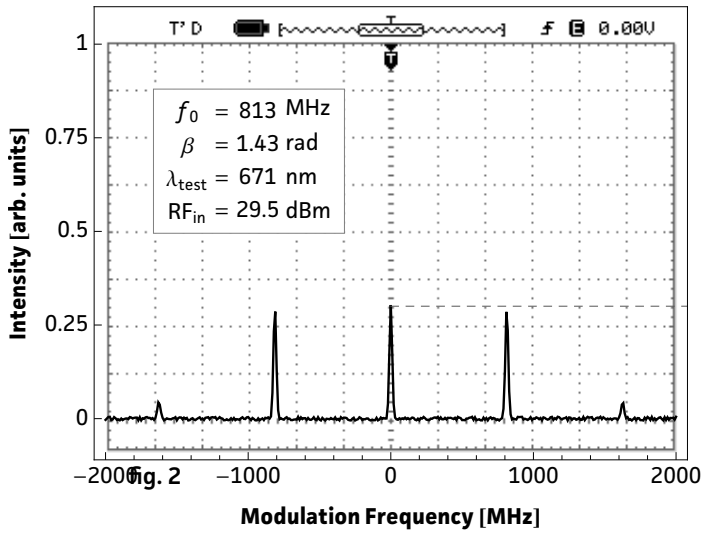


RF properties	Value	Unit
Resonance frequency: f_0 ¹⁾	678 - 966	MHz
Preset frequency: f_{set} ¹⁾	813	MHz
Bandwidth: $\Delta\nu$	3.2	MHz
Quality factor: Q	254	
Required RF power for 1rad @ 671nm ²⁾	26.4	dBm
max. RF power: RF_{max} ³⁾	2	W

Optical properties		
EO crystal	MLN	
Aperture	3x3	mm ²
Wavefront distortion (633nm)	$\lambda/4$	nm
max. optical intensity (671nm)	<10	W/mm ²
AR coating (R<0.5%)	500 - 900	nm

¹⁾ at 24.3°C ²⁾ with 50Ω termination ³⁾ no damage with $RF_{in} < 4W$

Measured modulation

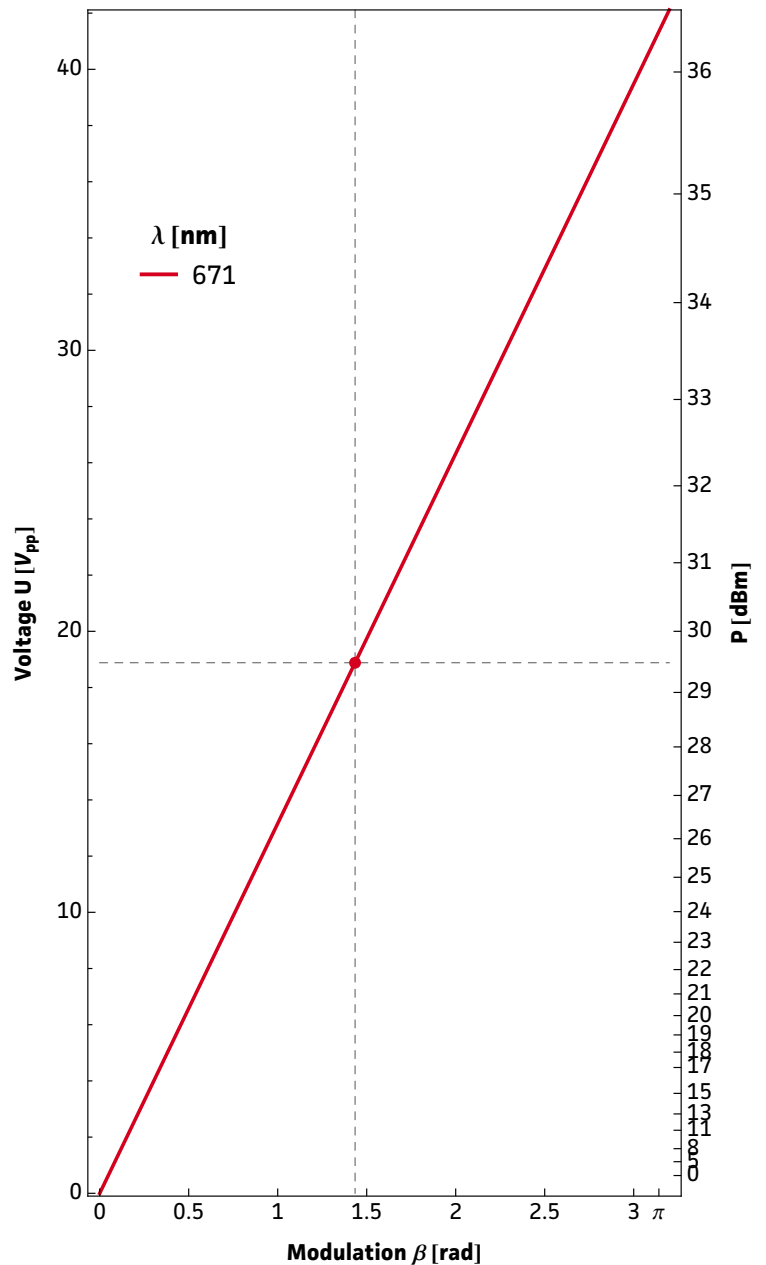
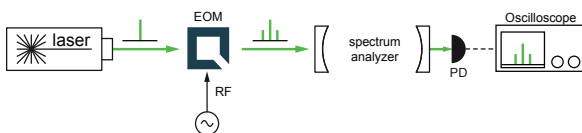


Expected modulation

Wavelength	λ_{use}	671	nm
Resonance frequency	f_0	813	MHz
Modulation	β	1.0	rad
RF power	U	13.2	V _{pp}
	P _{dBm}	26.4	dBm
	P _W	433	mW
	U _π	41.3	V _{pp}
Modulation efficiency	β/U	0.11	rad/V

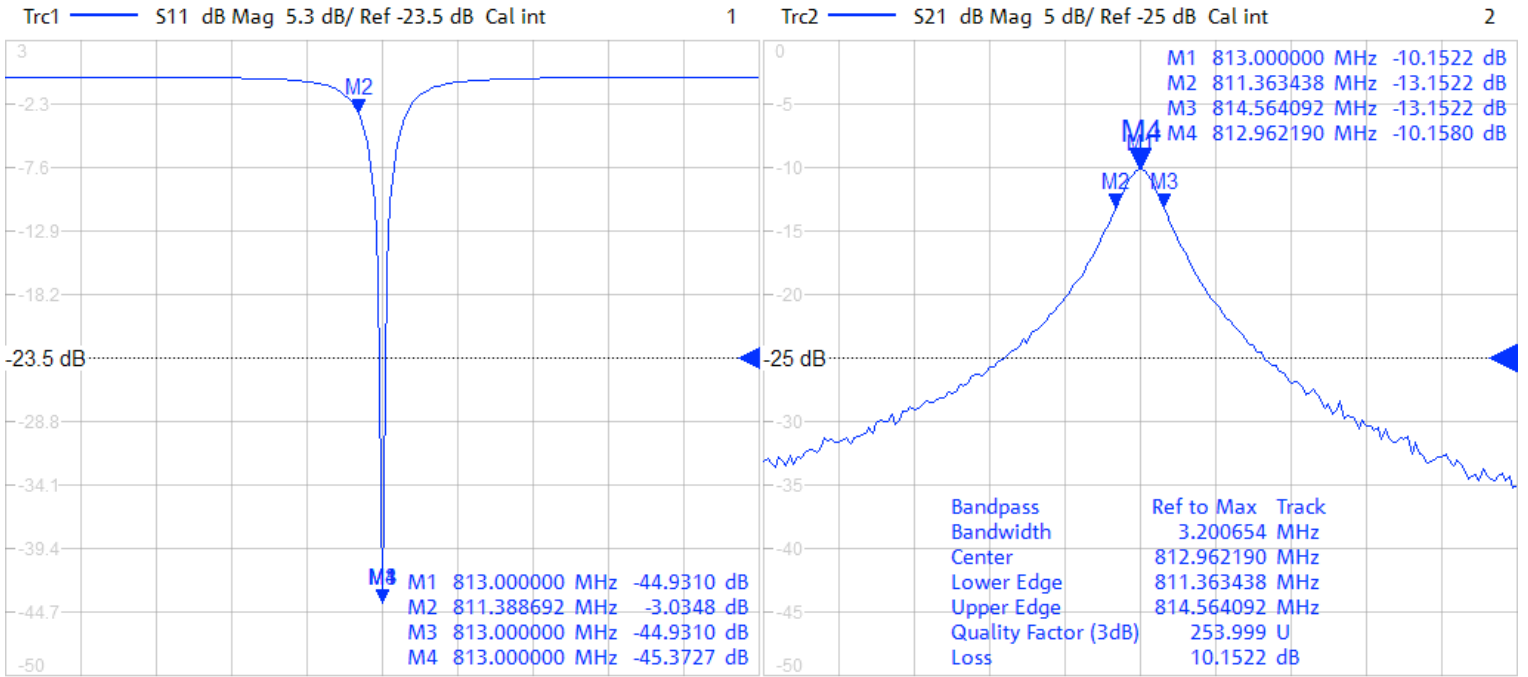
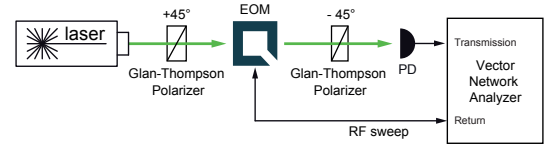
Note: After turn on, the resonance frequency might drift slightly with applied rf power. Please compensate by tuning the rf drive frequency until steady-state.

Test setup

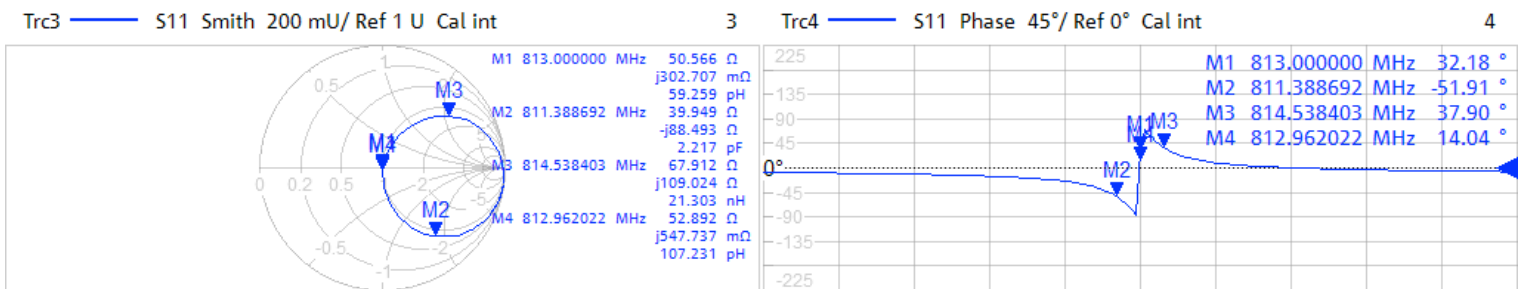


Resonance characteristics

1/15/2015 9:37:14 AM
1328.5170K92-100178-XI



Ch1 Center 813 MHz Pwr -20 dBm Bw 10 kHz Span 50 MHz



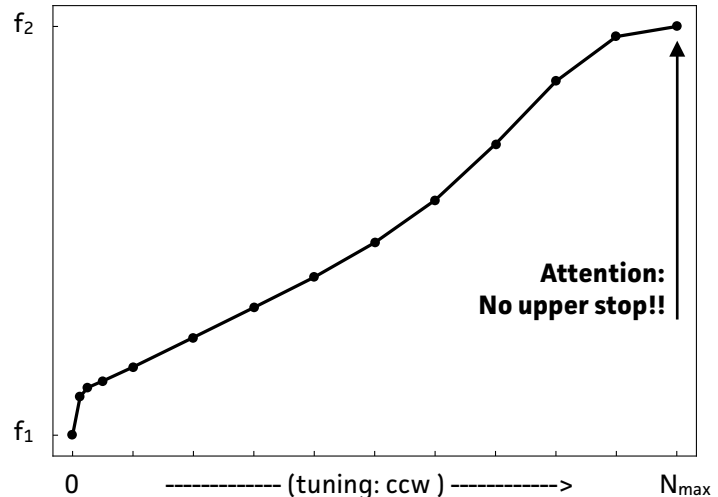
Ch1 Center 813 MHz Pwr -20 dBm Bw 10 kHz Span 50 MHz

Tuning performance

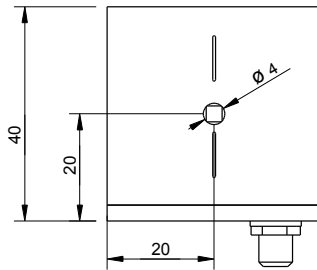
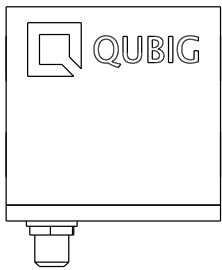
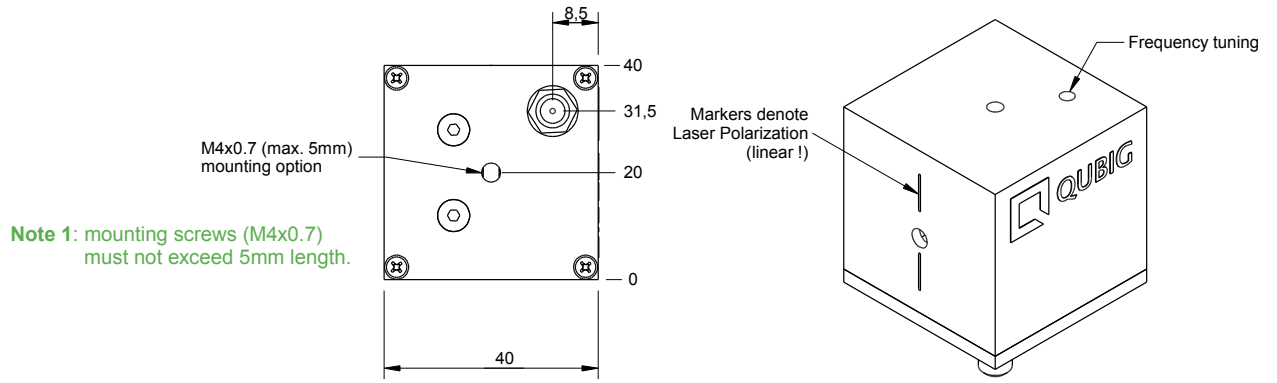
f_0 min max*	f_1 f_2	678 966	MHz
max. number of turns	N_{max}	10	turns
incr. frequency shift	Δf	~ 29	MHz / turn
tuning orientation		ccw	$f_0 \uparrow$

Attention!!

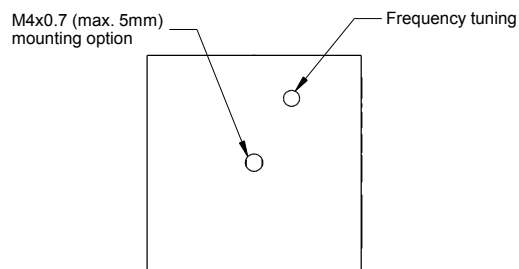
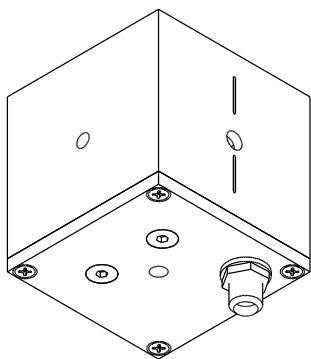
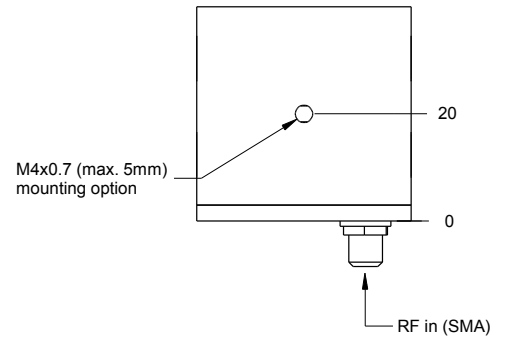
- use only supplied tuning tool
- actuate tuner carefully
- do not apply too much pressure or torque
- keep tuning tool coaxial
- tuner might not be perfectly orthogonal to box



Package drawing



Note 2: crystal aperture is 3x3mm.



Attention!!

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- actuate tuner carefully
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