

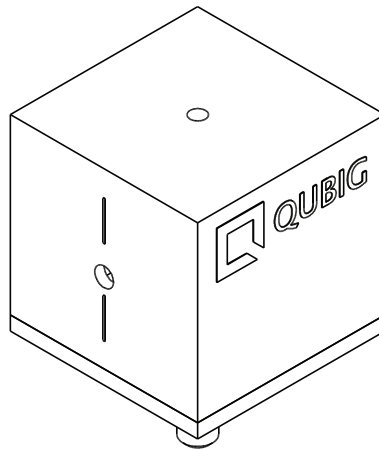


Test Data Sheet

EO-K41L3

S/N:

High-Q, resonant electro-optic phase modulator
with
- tunable resonance frequency

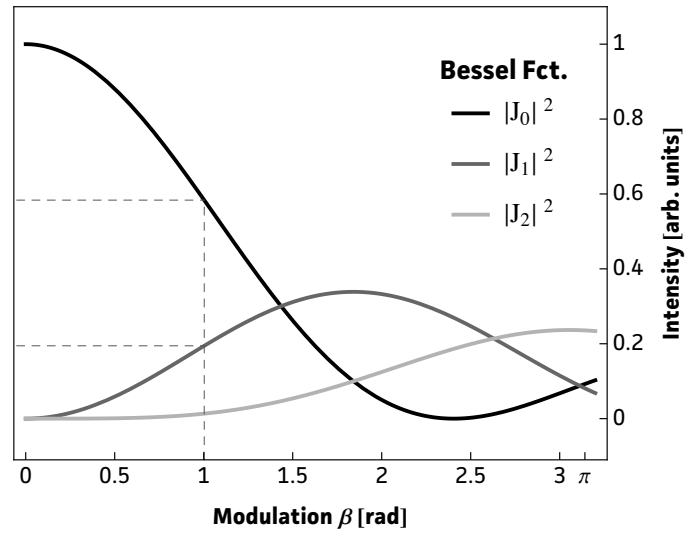
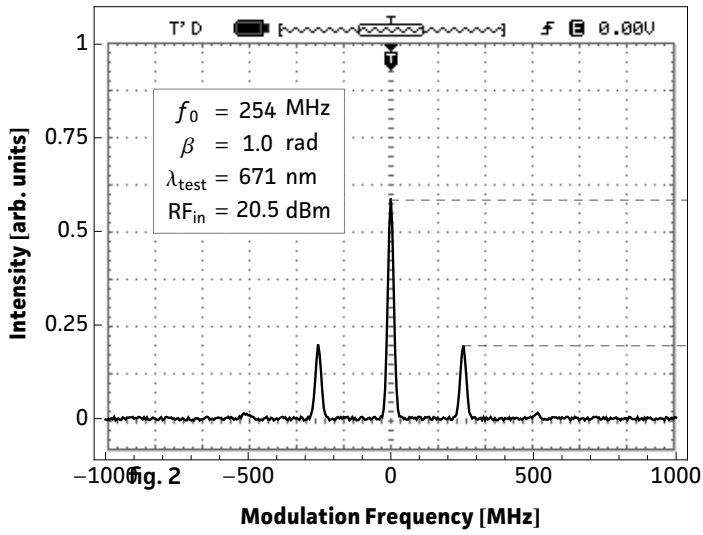


RF properties	Value	Unit
Resonance frequency: f_0 ¹⁾	192 - 277	MHz
Preset frequency: f_{set} ¹⁾	254	MHz
Bandwidth: $\Delta\nu$	1.3	MHz
Quality factor: Q	194	
Required RF power for 1rad @ 767nm ²⁾	21.8	dBm
max. RF power: RF_{max} ³⁾	1	W

Optical properties		
EO crystal	LN	
Aperture	3x3	mm ²
Wavefront distortion (633nm)	$\lambda/4$	nm
max. optical intensity (767nm)	<1	W/mm ²
AR coating (R<0.5%)	630 - 1070	nm

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

Measured modulation

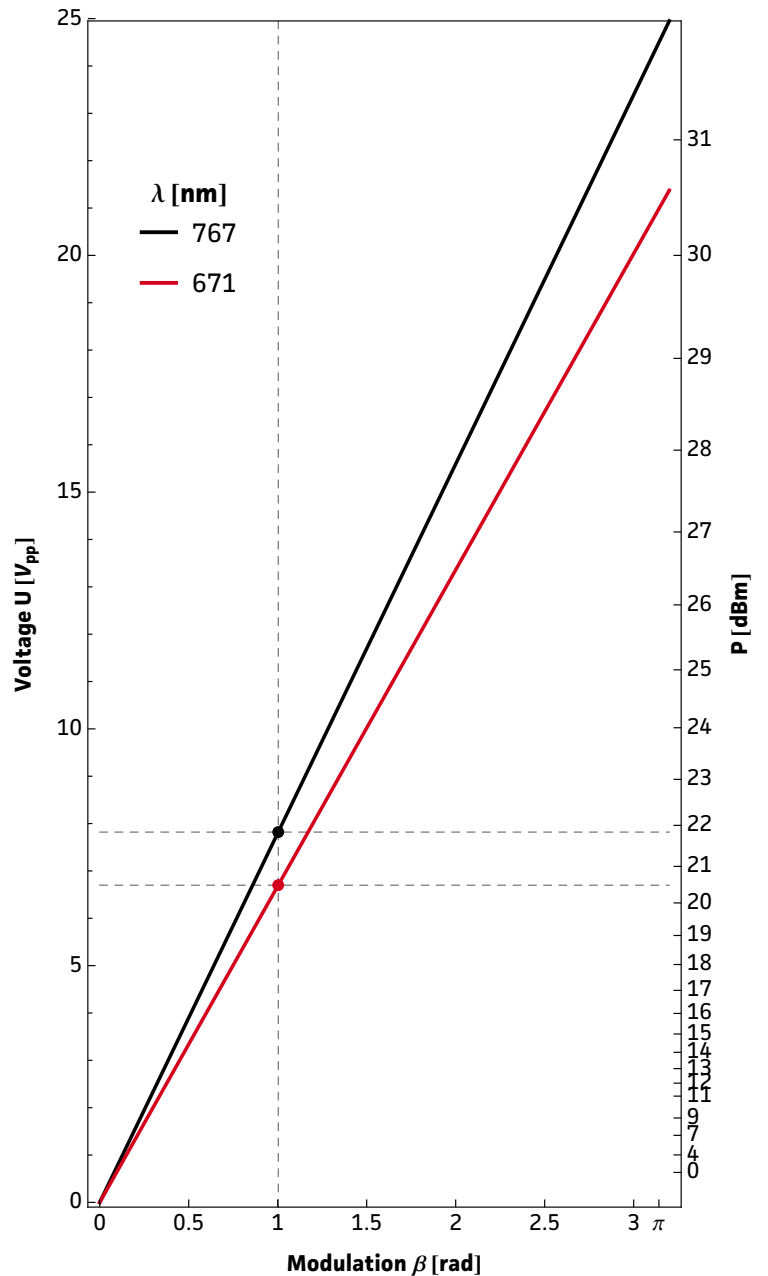
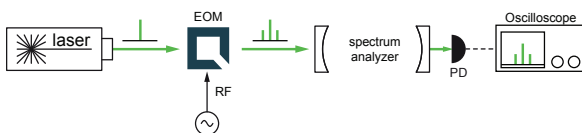


Expected modulation

Wavelength	λ_{use}	767	nm
Resonance frequency	f_0	254	MHz
Modulation	β	1.0	rad
RF power	U	7.8	V _{pp}
	P _{dBm}	21.8	dBm
	P _W	152	mW
	U _π	24.5	V _{pp}
Modulation efficiency	β/U	0.18	rad/V

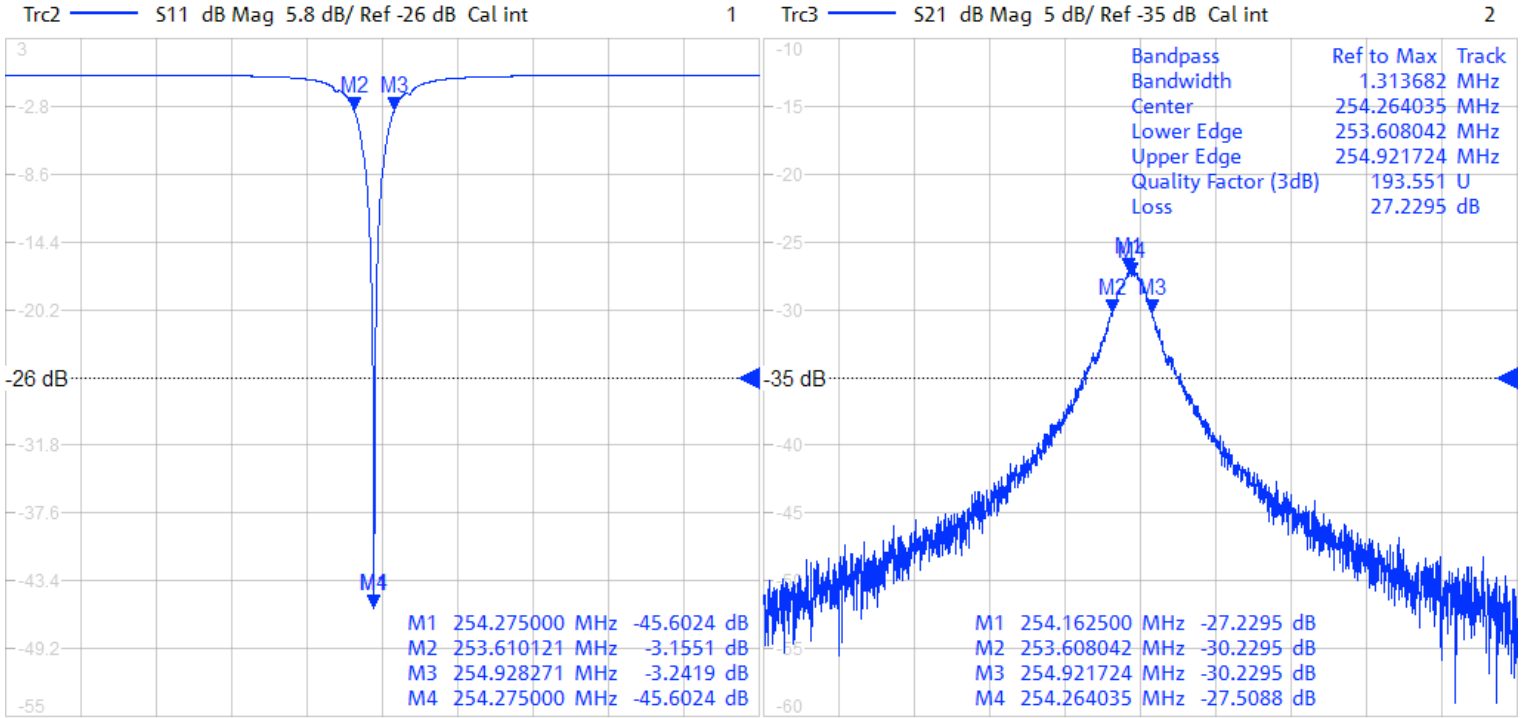
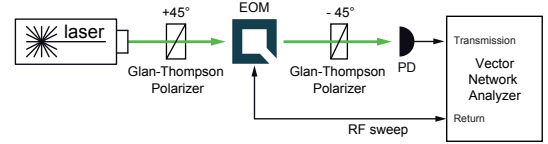
Note: After turn on, the resonance frequency might drift slightly with applied rf power. Please compensate by tuning the rf drive frequency until steady-state.

Test setup

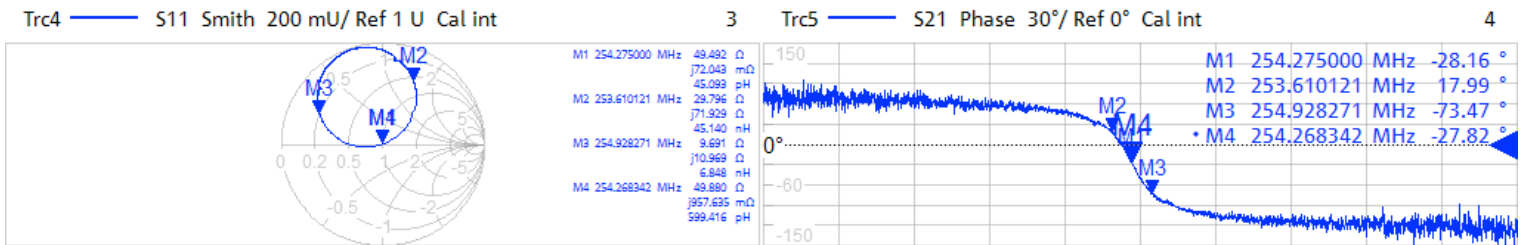


Resonance characteristics

5/7/2015 3:35:29 PM
1328.5170K92-100178-XI



Ch1 Center 254.55 MHz Pwr -10 dBm Bw 10 kHz Span 25 MHz



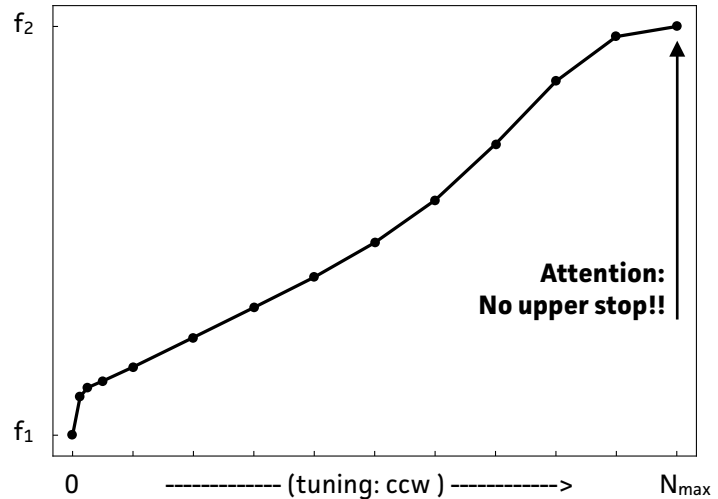
Ch1 Center 254.55 MHz Pwr -10 dBm Bw 10 kHz Span 25 MHz

Tuning performance

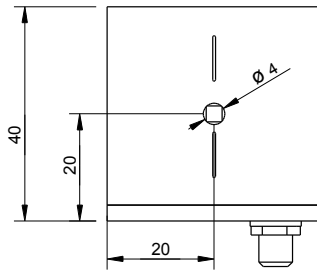
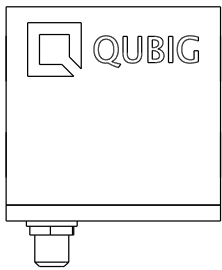
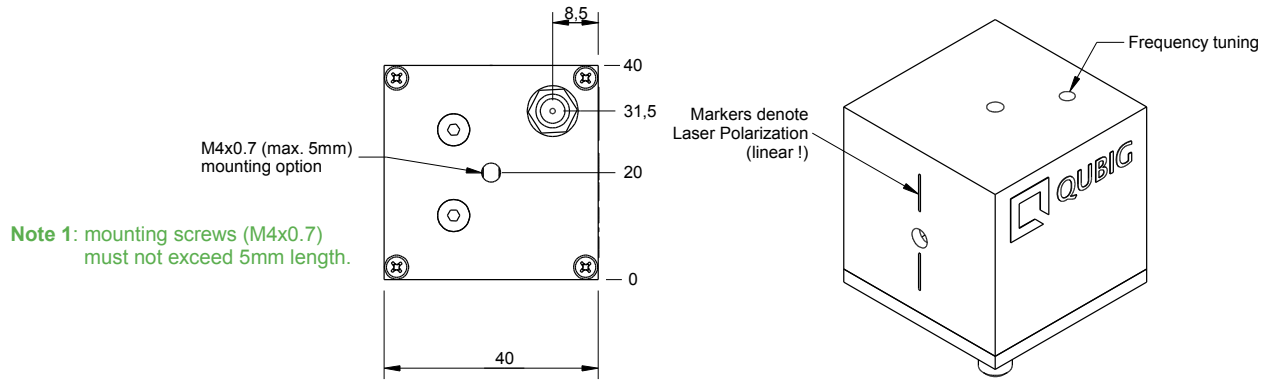
f_0 min max*	f_1 f_2	192 277	MHz
max. number of turns	N_{max}	19	turns
incr. frequency shift	Δf	~ 4.5	MHz / turn
tuning orientation		ccw	$f_0 \uparrow$

Attention!!

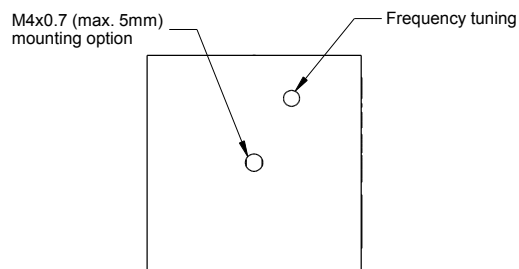
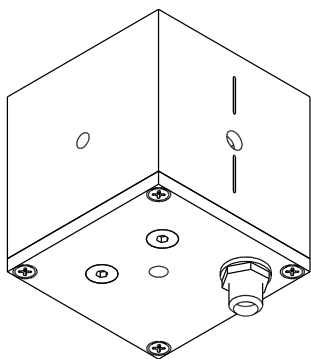
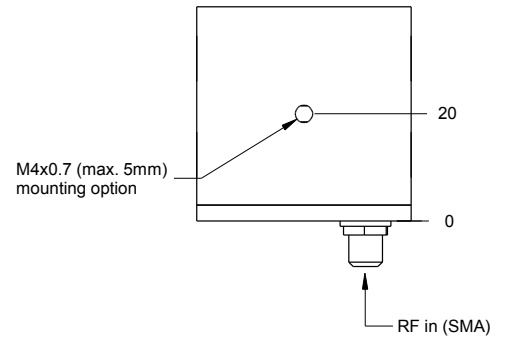
- use only supplied tuning tool
- actuate tuner carefully
- do not apply too much pressure or torque
- keep tuning tool coaxial
- tuner might not be perfectly orthogonal to box



Package drawing



Note 2: crystal aperture is 3x3mm.



Attention!!

- 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