



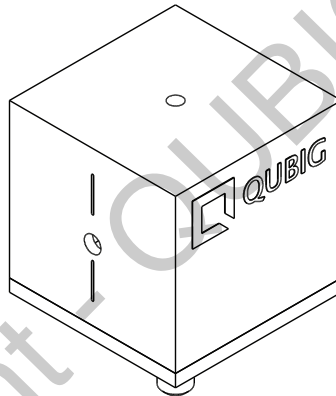
Test Data Sheet

PM-K41_0.2L3

(old: EO-K41L3-NIR)

S/N:

Resonant electro-optic phase modulator
with
- tunable resonance frequency
- thermal crystal mount

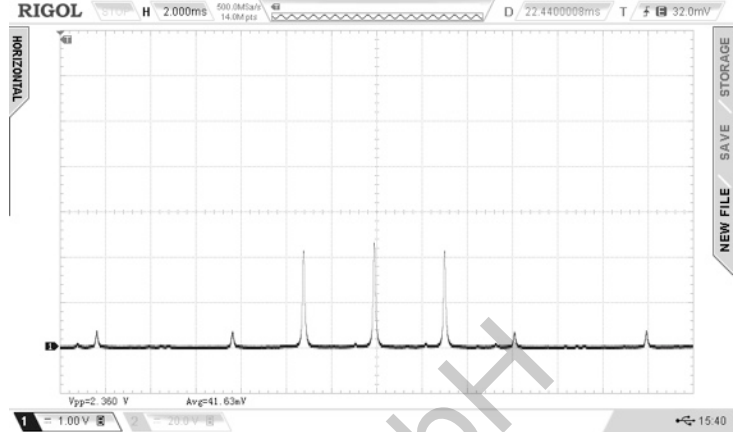
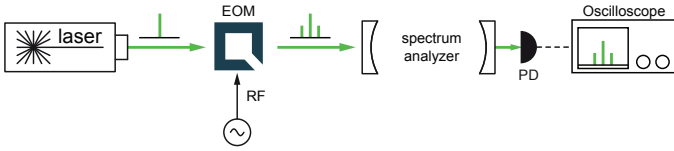


RF properties	Value	Unit
Resonance frequency: f_0 ¹⁾	192 - 277	MHz
Preset frequency: f_{set} ¹⁾	254	MHz
Bandwidth: $\Delta\nu$	1.3	MHz
Quality factor: Q	194	
Required voltage V_1 for 1rad @ 767nm ²⁾	7.8	V _{pp}
max. RF _{in} power: RF _{max} ³⁾	2	W

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 20.1°C ²⁾ with 50Ω termination ³⁾ no damage with RF_{in} < 5W

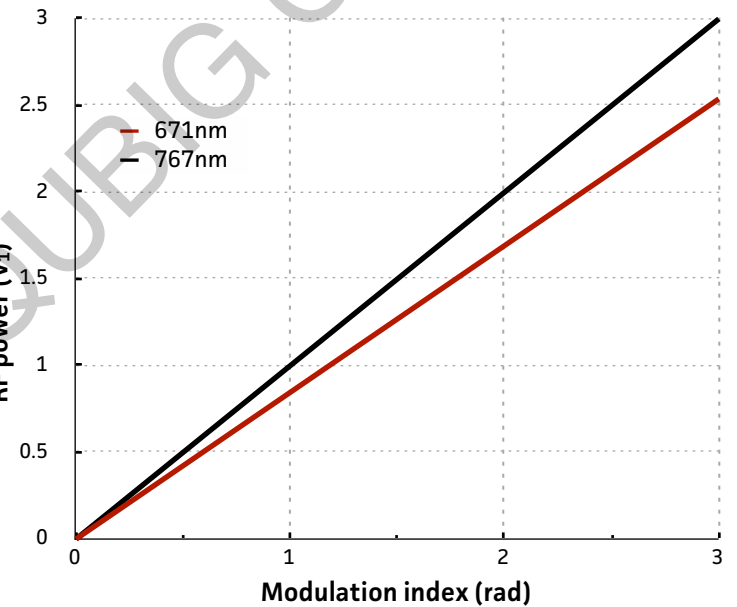
Measured modulation



Test wavelength	λ_{test}	671	nm
Resonance frequency	f_0	254	MHz
RF power	RF_{in}	6.6	V_{pp}
		23.6	dBm

Expected modulation

Wavelength	λ_{use}	767	nm
Resonance frequency	f_0	254	MHz
RF power	V_1	7.8	V_{pp}
	P_{dBm}	21.8	dBm
	P_{W}	151	mW



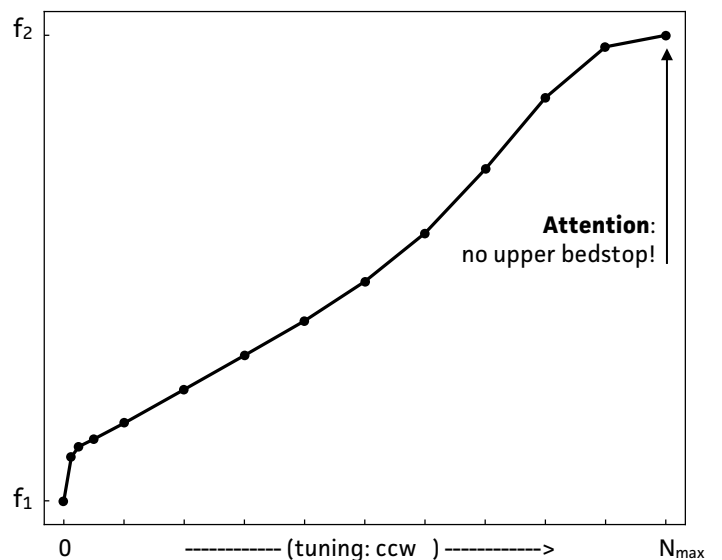
Note: After turn on, the resonance frequency might drift slightly with applied rf power. Please compensate by tuning the rf drive frequency until steady-state.

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!!

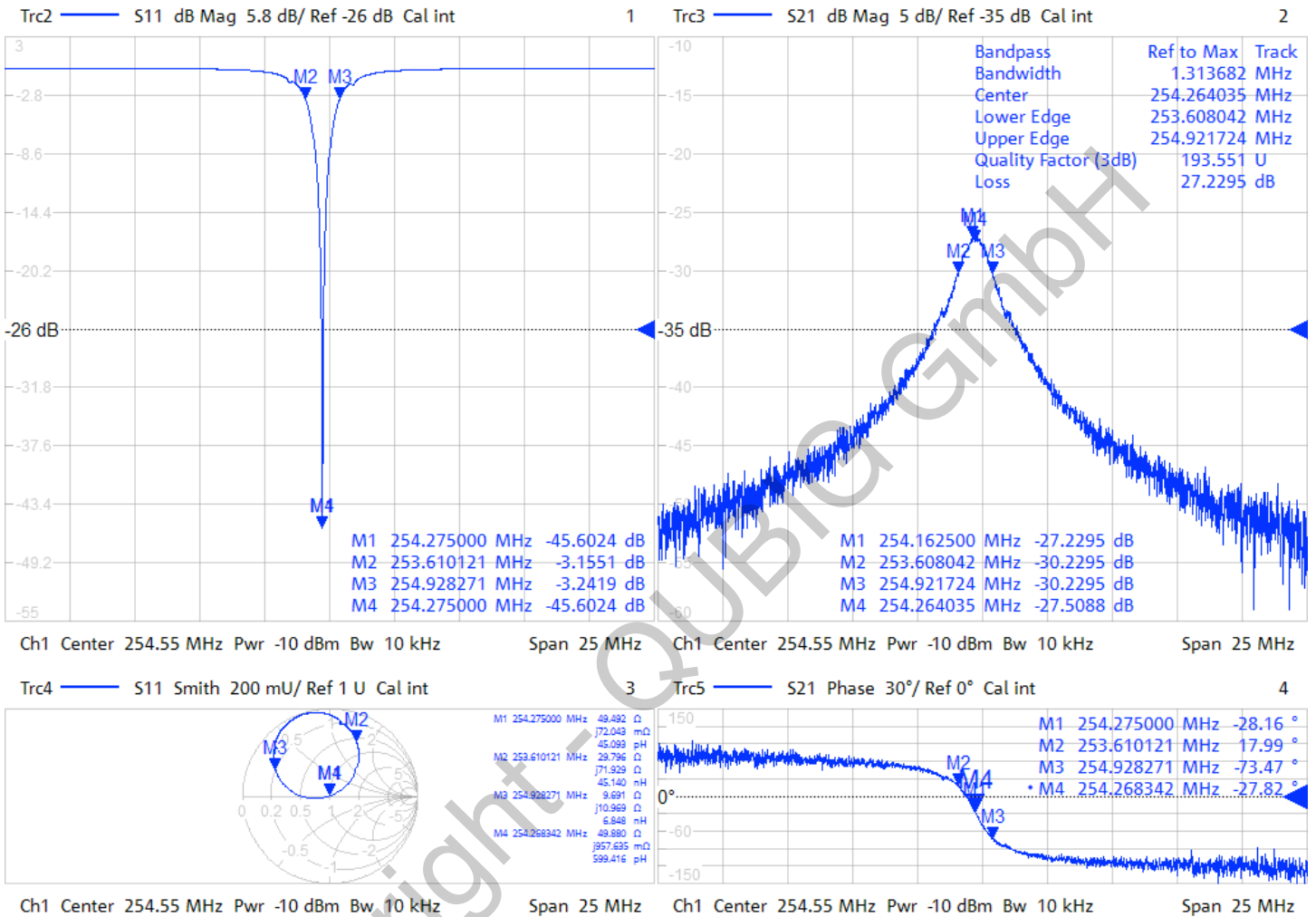
- use only supplied tuning tool
- actuate tuner carefully
- do not apply too much pressure or torque
- keep tuning tool coaxial
- tuner might not be perfectly orthogonal to box



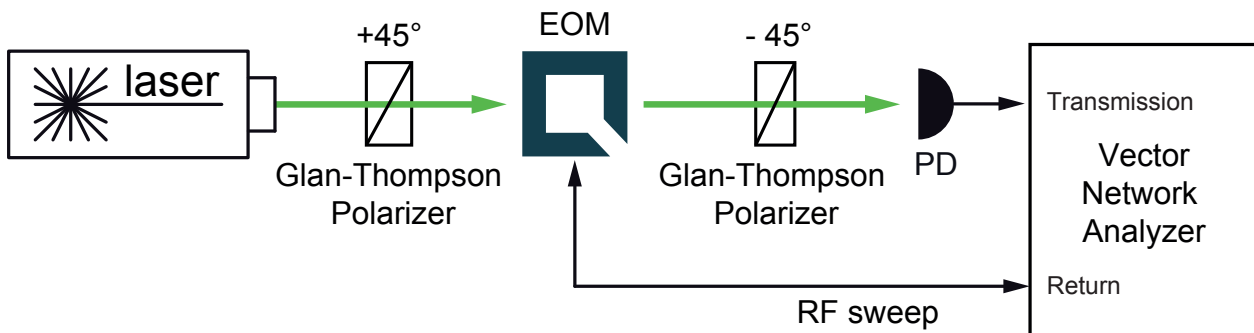
Return loss

Optical modulation

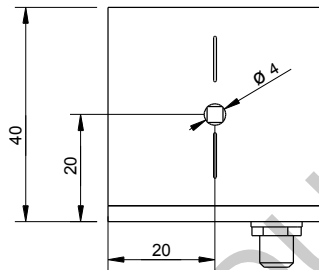
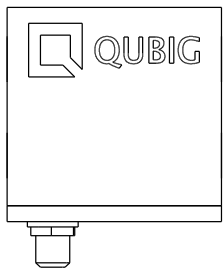
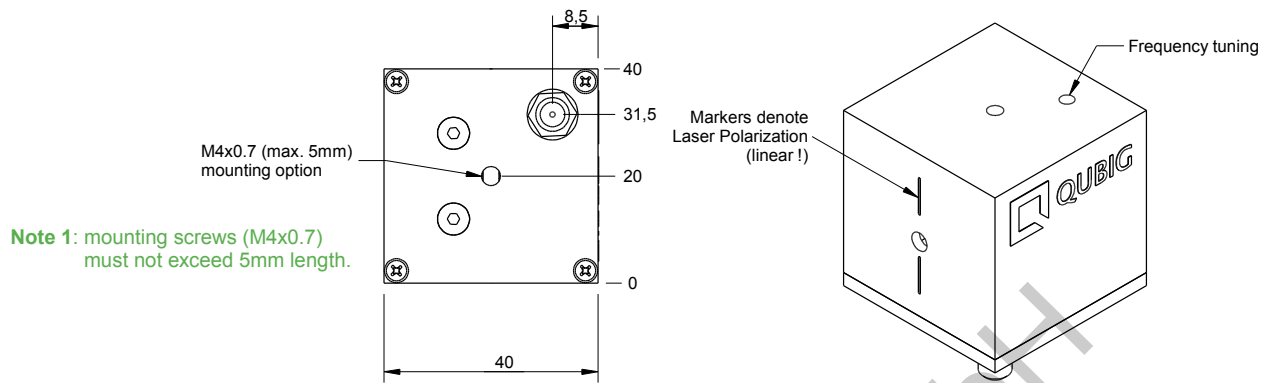
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Test setup

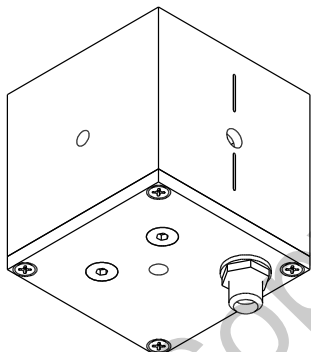
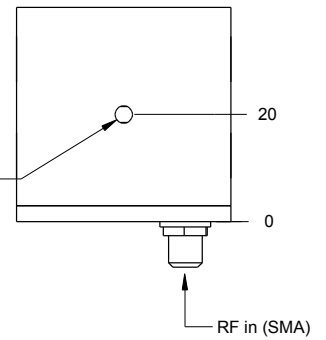


Package drawing



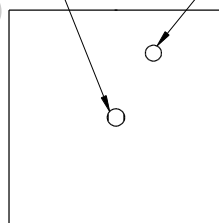
Note 2: crystal aperture is 3x3mm.

M4x0.7 (max. 5mm) mounting option



M4x0.7 (max. 5mm) mounting option

Frequency tuning



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- tuner might not be perfectly orthogonal to box

Tested by:

Tel: +49 89 2302 9101
 Fax: +49 89 2302 9102
 eMail: mail@qubig.com
 web: www.qubig.com

Qubig GmbH
 Balanstr. 57
 81541 Munich
 Germany