

Mar 09, 14 0:57

AlignGC1_Ring_titles.txt

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Report for Grating coupler and ring resonator non-uniformity

Chip ID: A1-waferS3-1-chip13, 298 devices

 *** Figure captions: ***

Fig. 4: timestamps, sorted

Fig. 5:

Fig. 6: outliers, ring ng

Fig. 7:

Fig. 8:

Fig. 9: outliers, GC wavelength

Fig. 10:

Fig. 11: outliers, GC insertion loss

Fig. 1: Typical GC+Ring Optical Spectrum: 6151.685,24254.5

Fig. 12: Physical location of test structures on chip

Fig. 13: Resonances for a fixed mode number

Fig. 14: Resonator wavelength deviation, mean 1530.38nm

Fig. 15: Waveguide Group Index

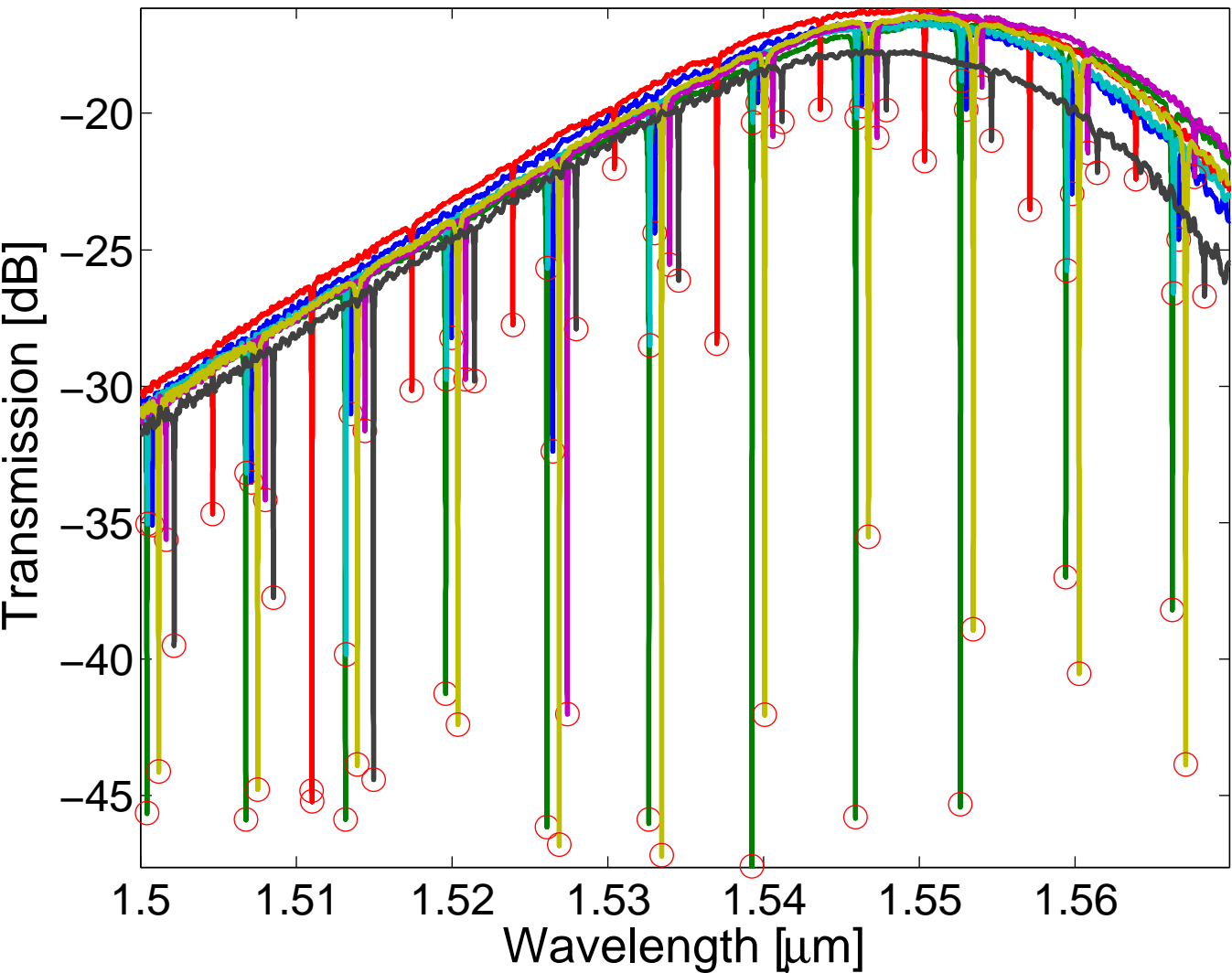
Fig. 16: Grating coupler peak wavelength deviation, mean 1549.52nm

Fig. 17: Grating coupler Insertion Loss deviation, mean -8.38 dB

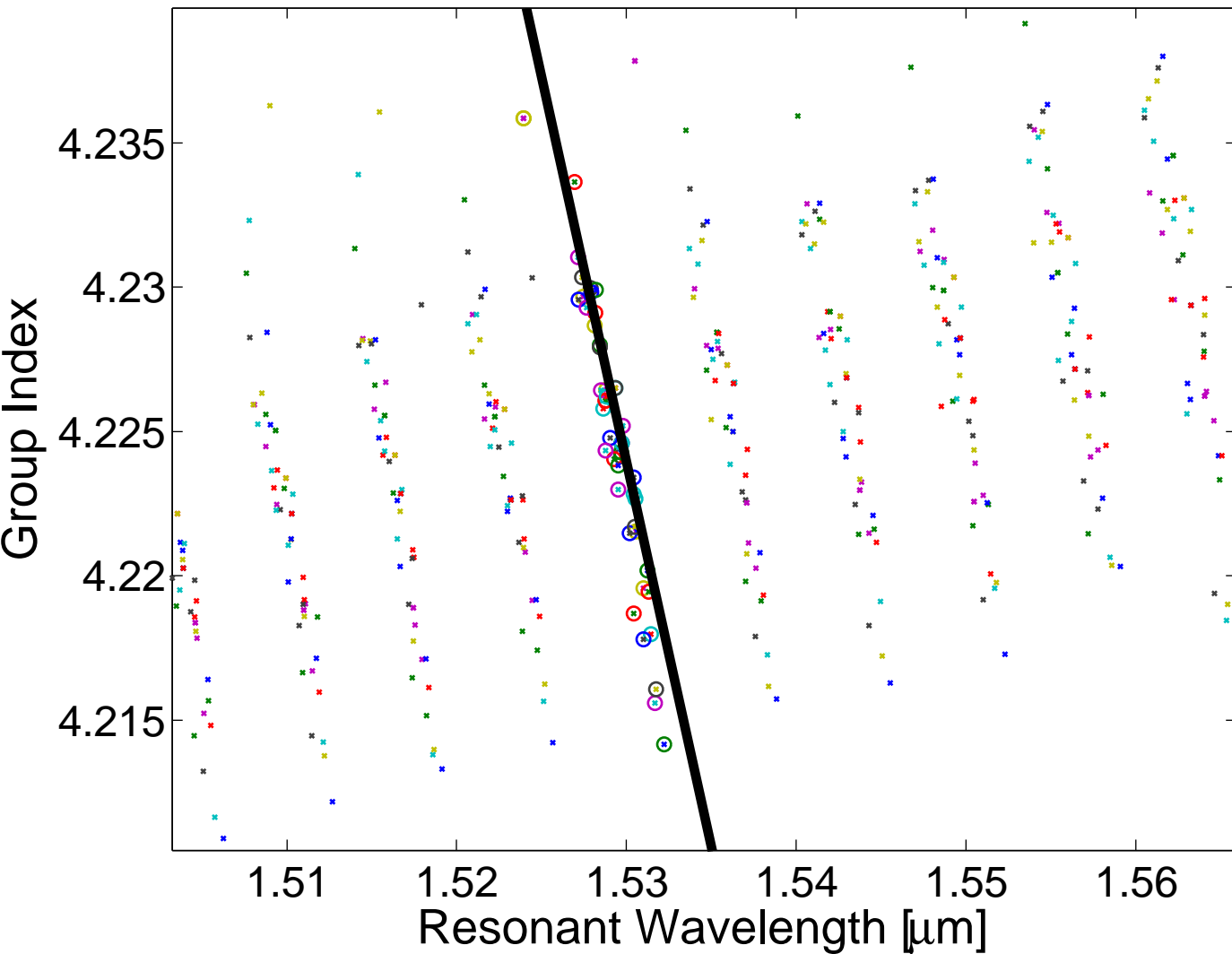
Fig. 18: 44253 combinations of 2 resonators

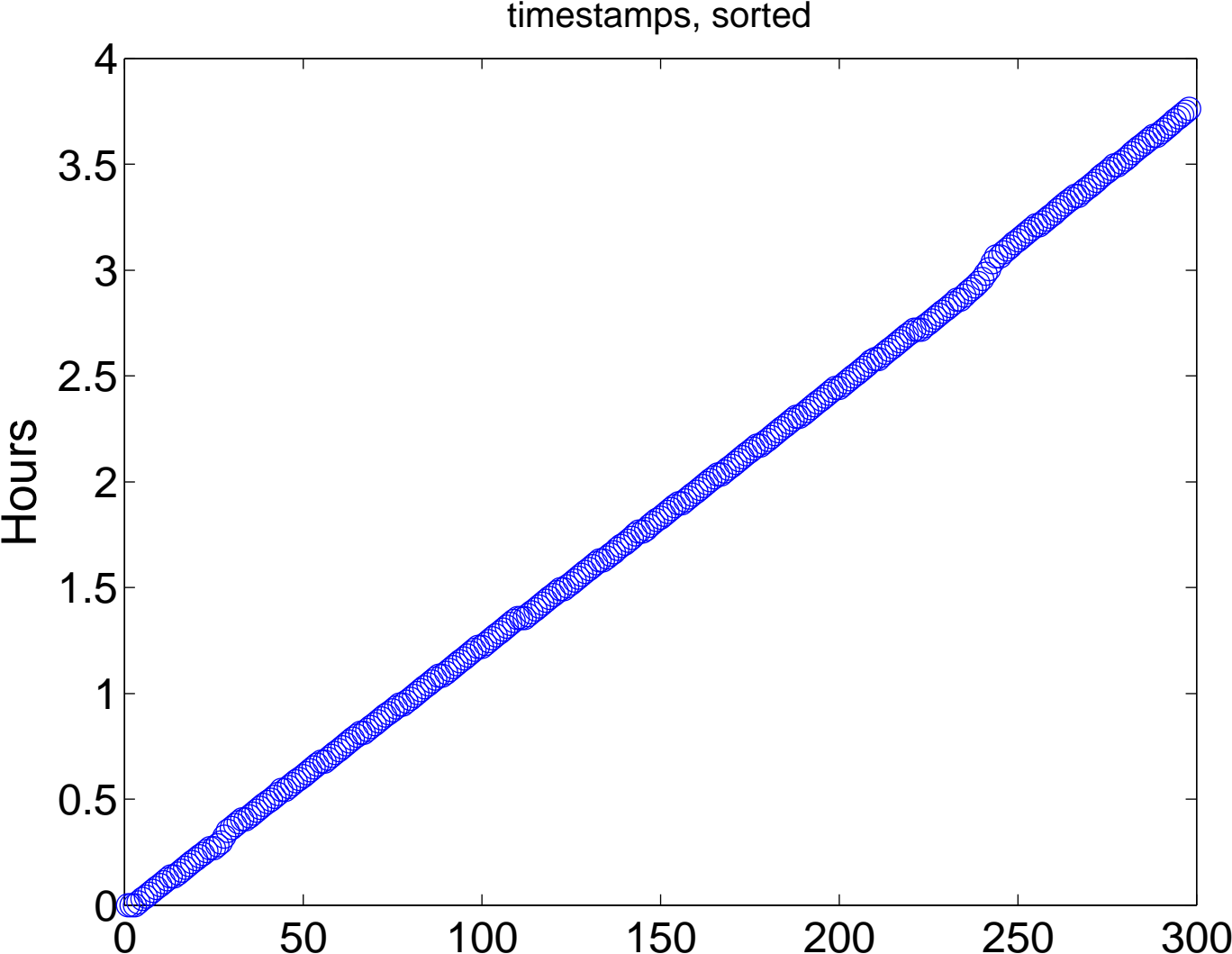
Fig. 19: Resonator: 44253 combinations of 2 resonators, fit line $0.043164x + 0.83126$ Fig. 21: Resonator: 44253 combinations of 2 resonators, fit line $0.066633x + 0.82664$ Fig. 22: Grating coupler wavelength: 44253 combinations of 2 GC pairs, fit line $0.0236x + 0.6685$

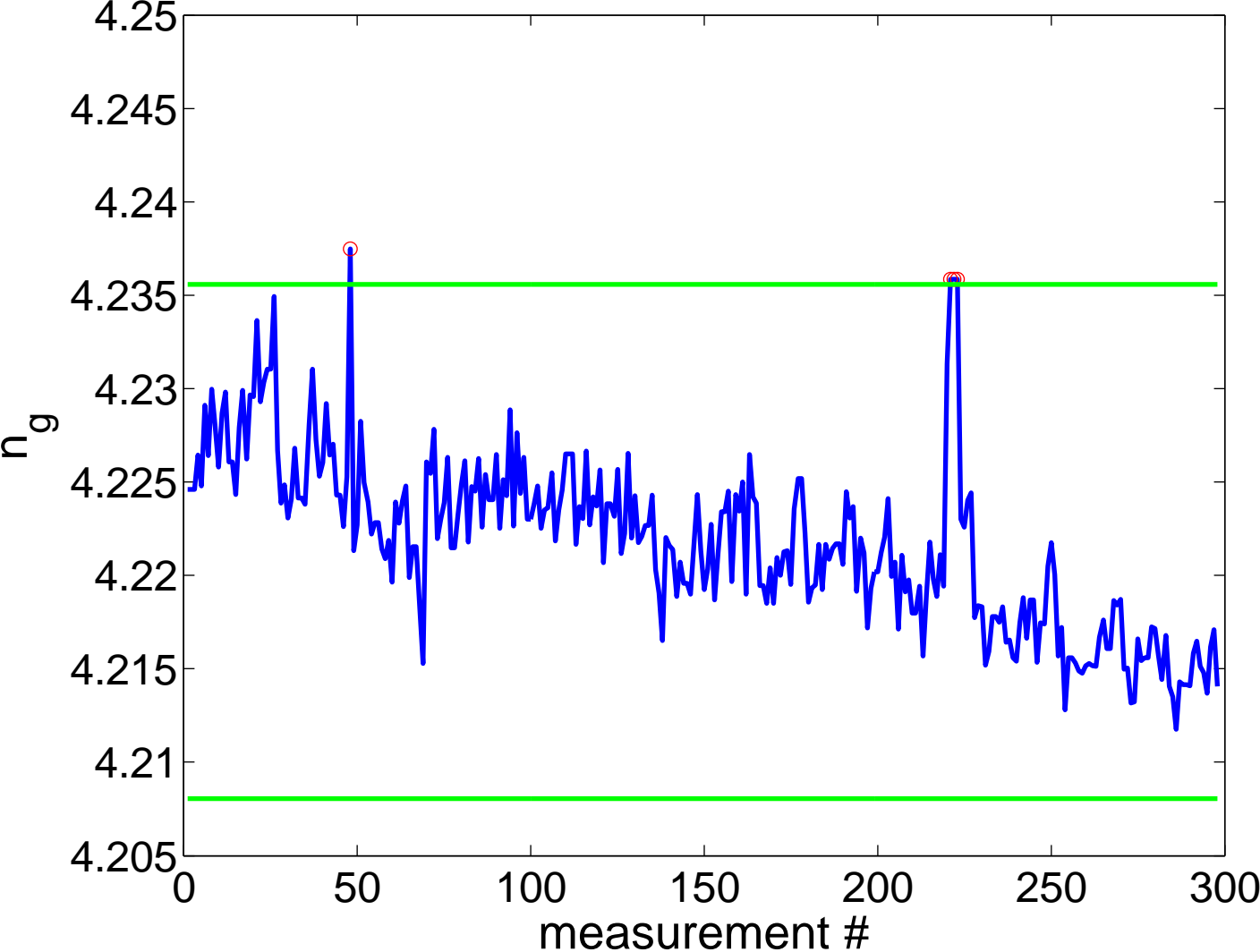
Typical GC+Ring Optical Spectrum: 6151.685,24254.5



49 identical racetrack resonators, resonator wavelength / waveguide group index







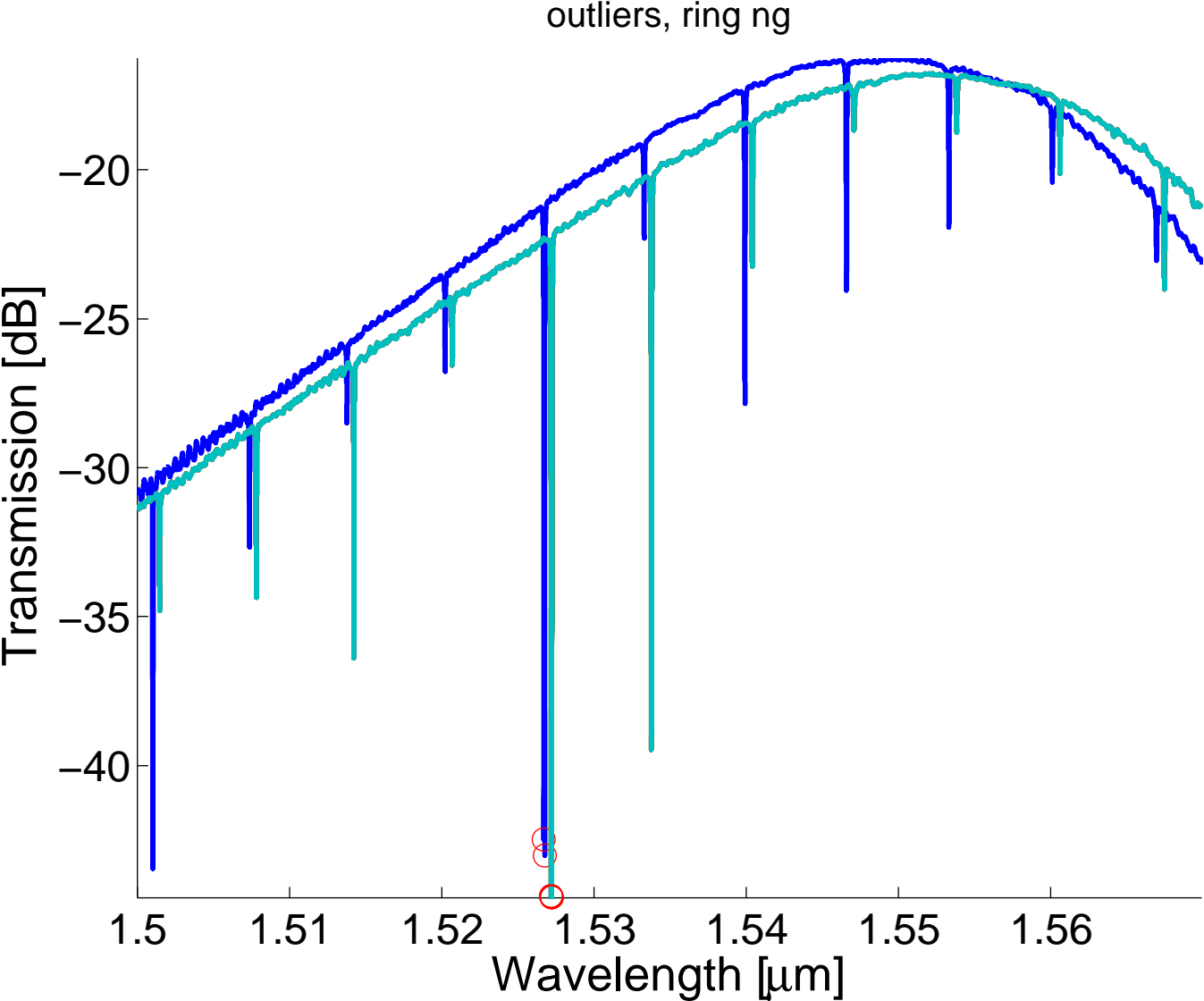
outliers, ring ng

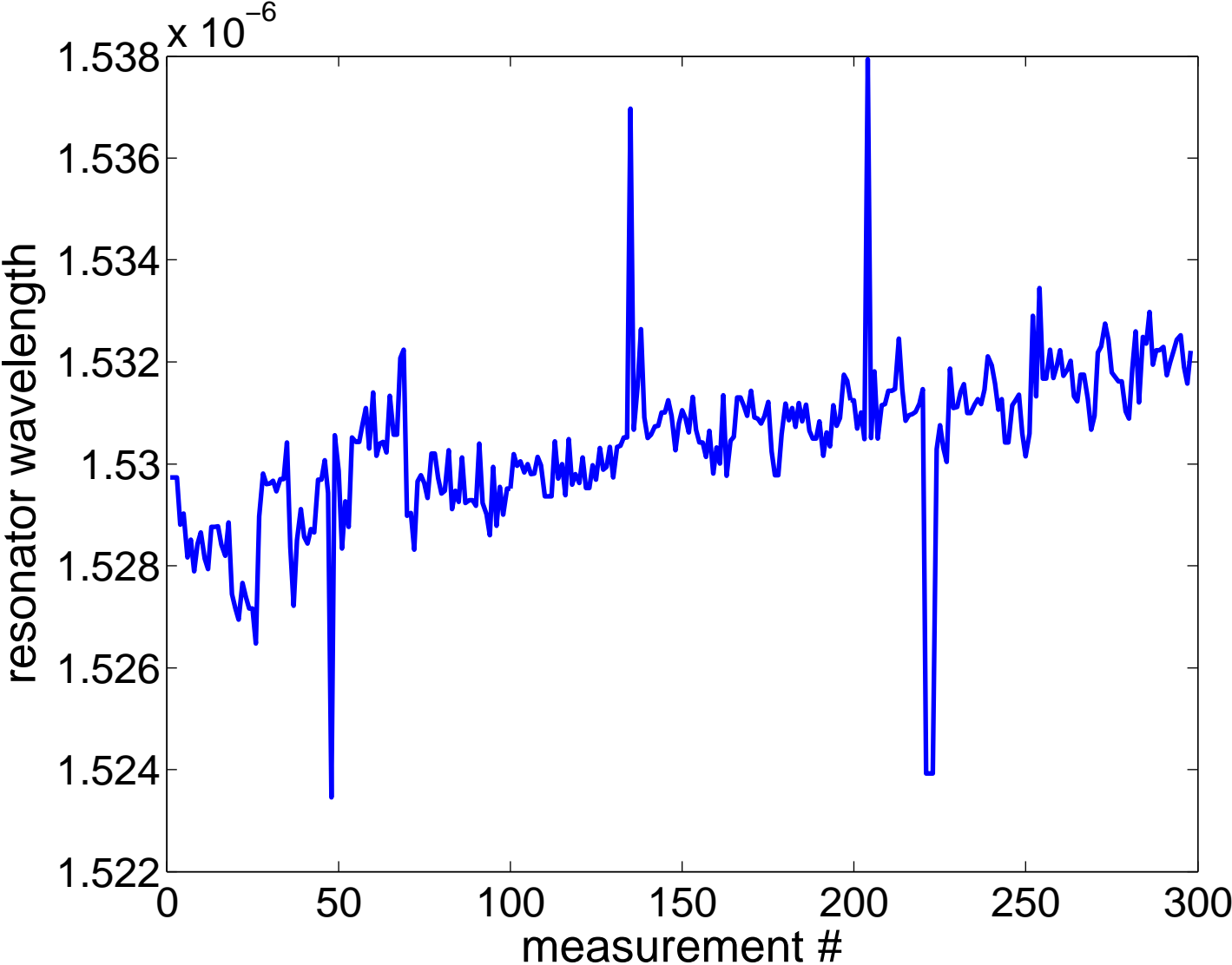
Transmission [dB]

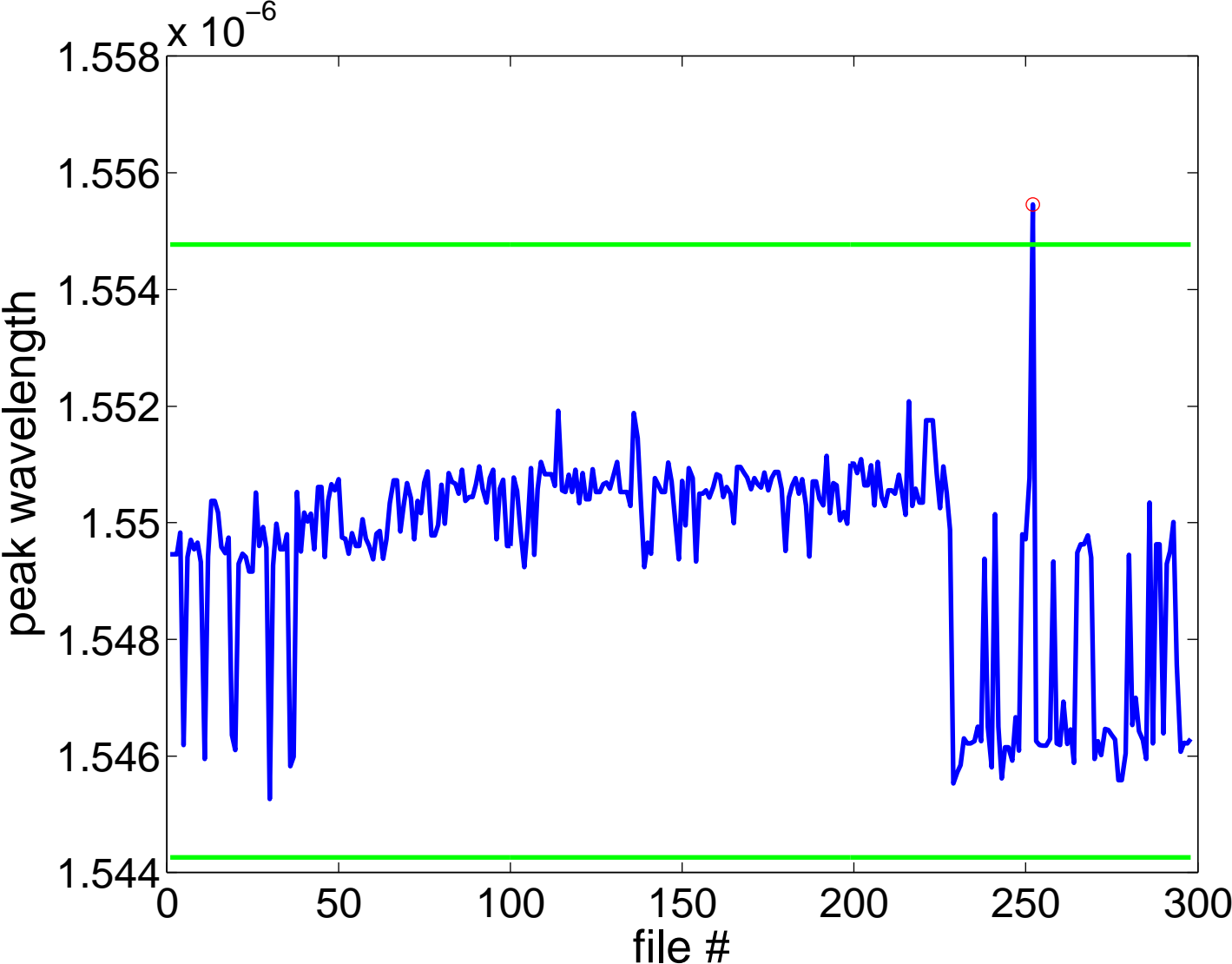
-20
-25
-30
-35
-40

1.5 1.51 1.52 1.53 1.54 1.55 1.56

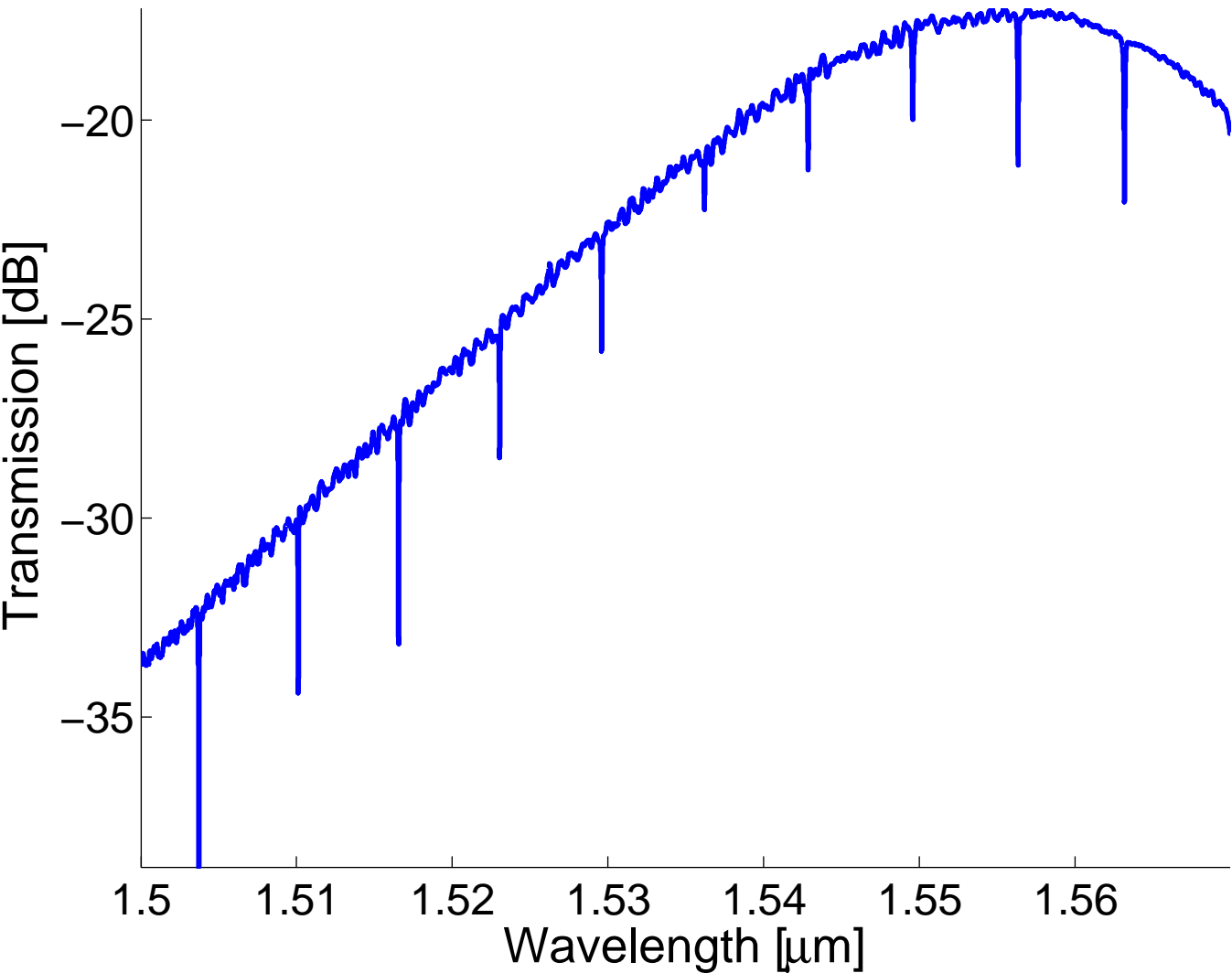
Wavelength [μm]

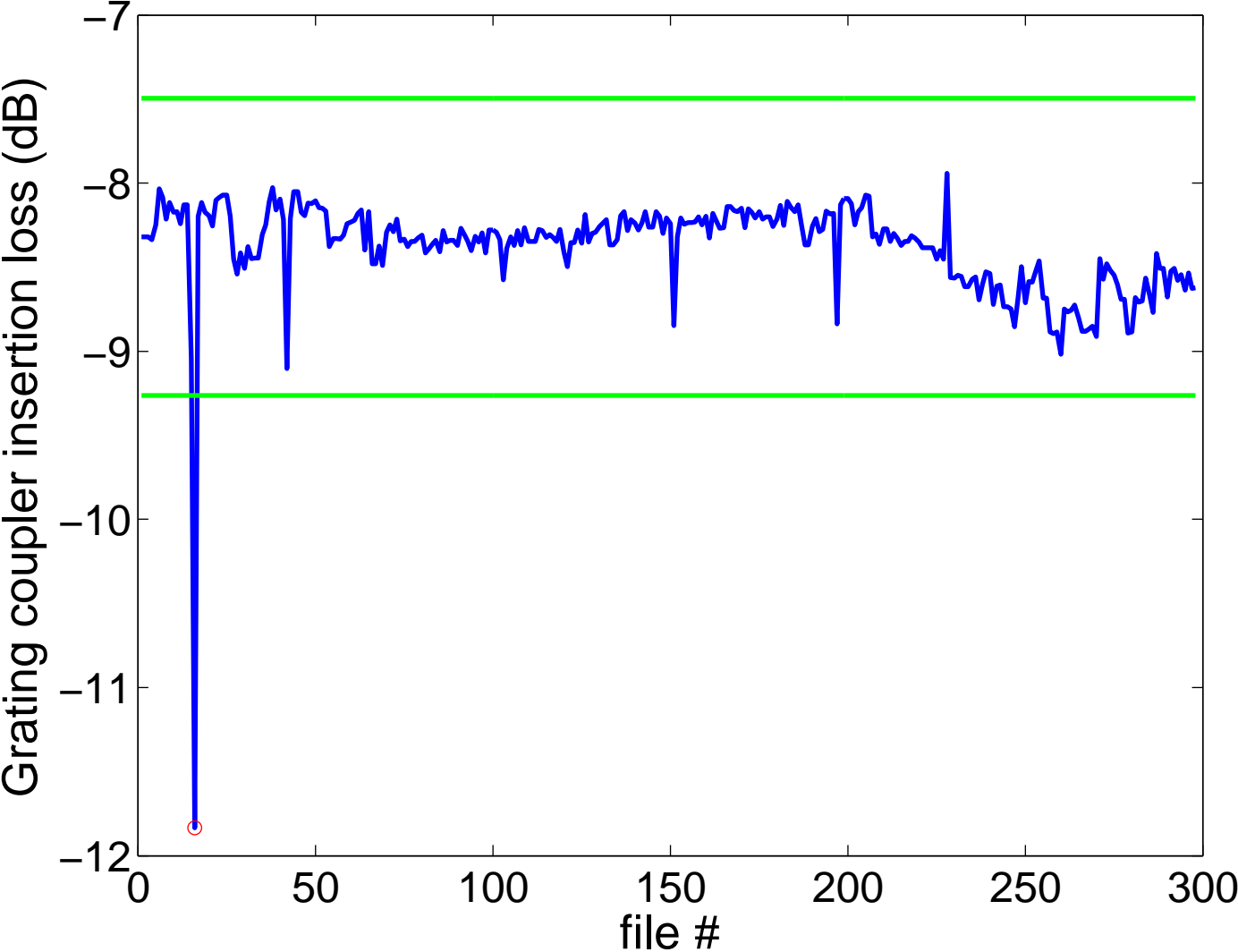






outliers, GC wavelength





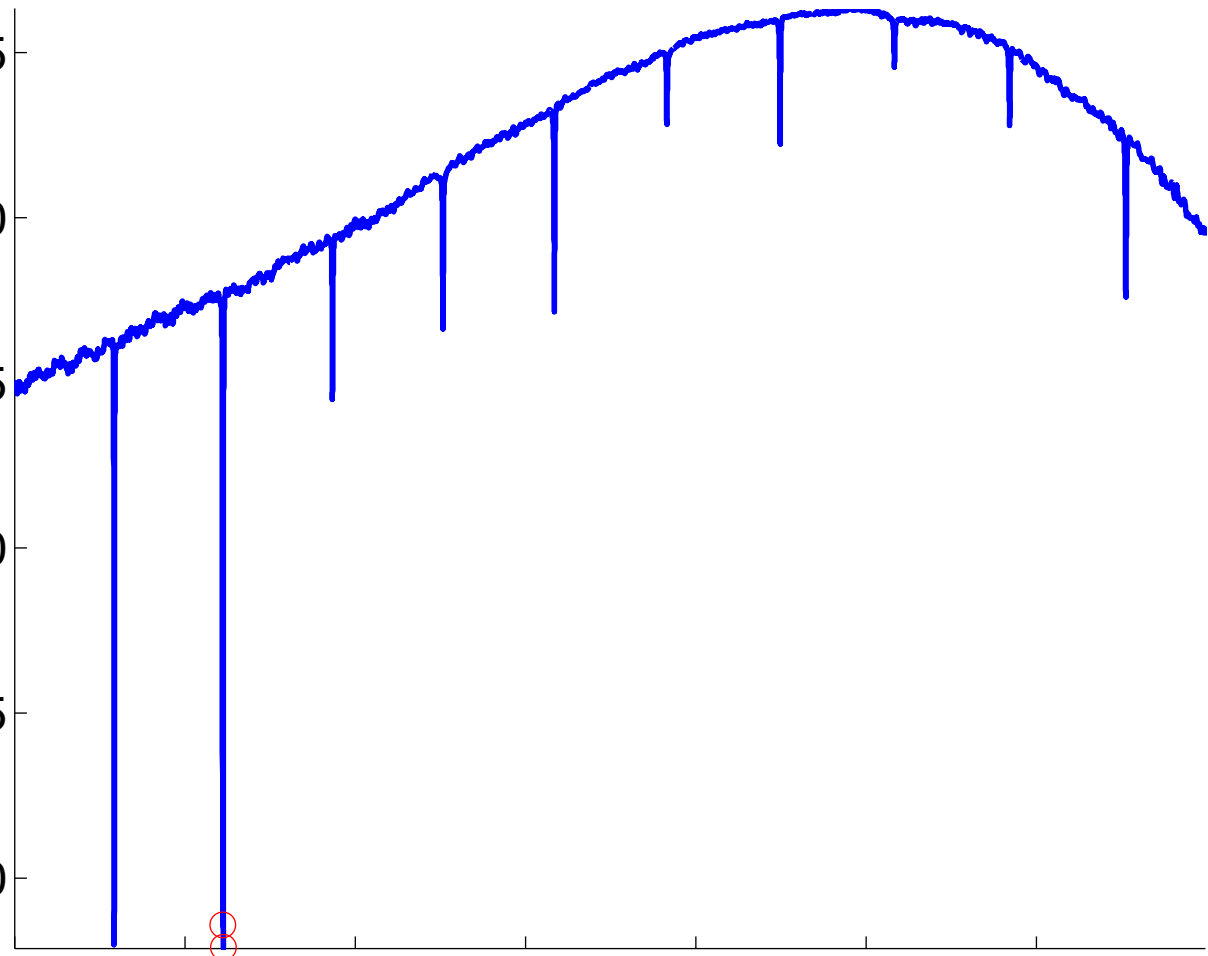
outliers, GC insertion loss

Transmission [dB]

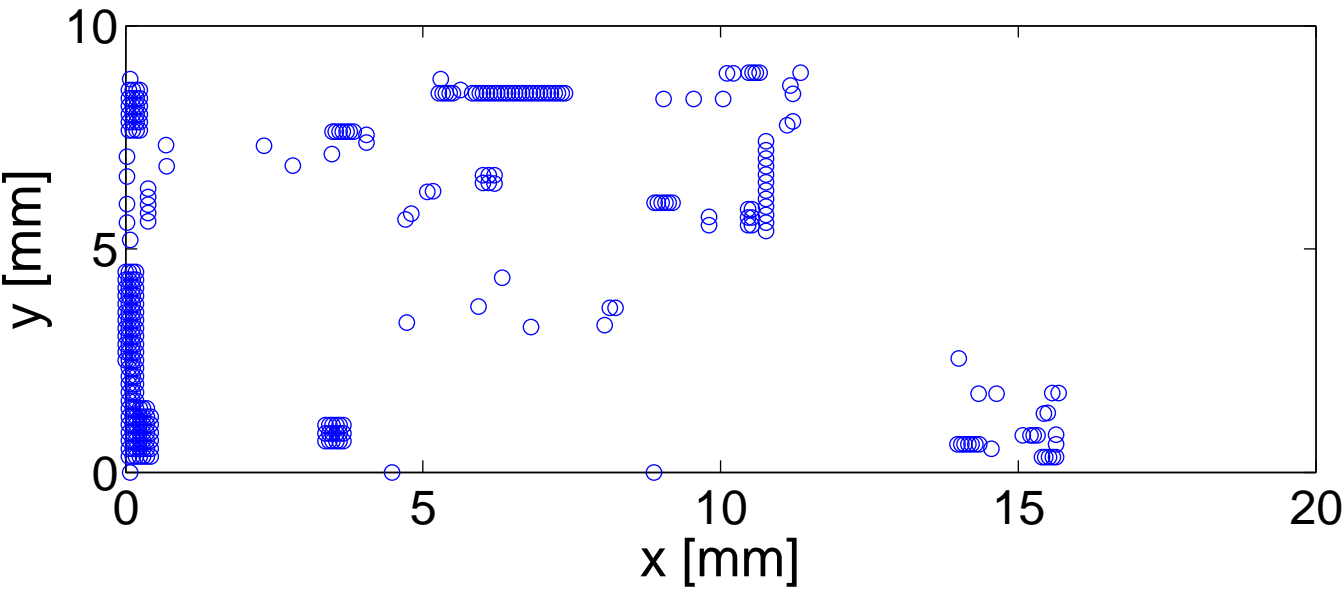
-25
-30
-35
-40
-45
-50

1.5 1.51 1.52 1.53 1.54 1.55 1.56

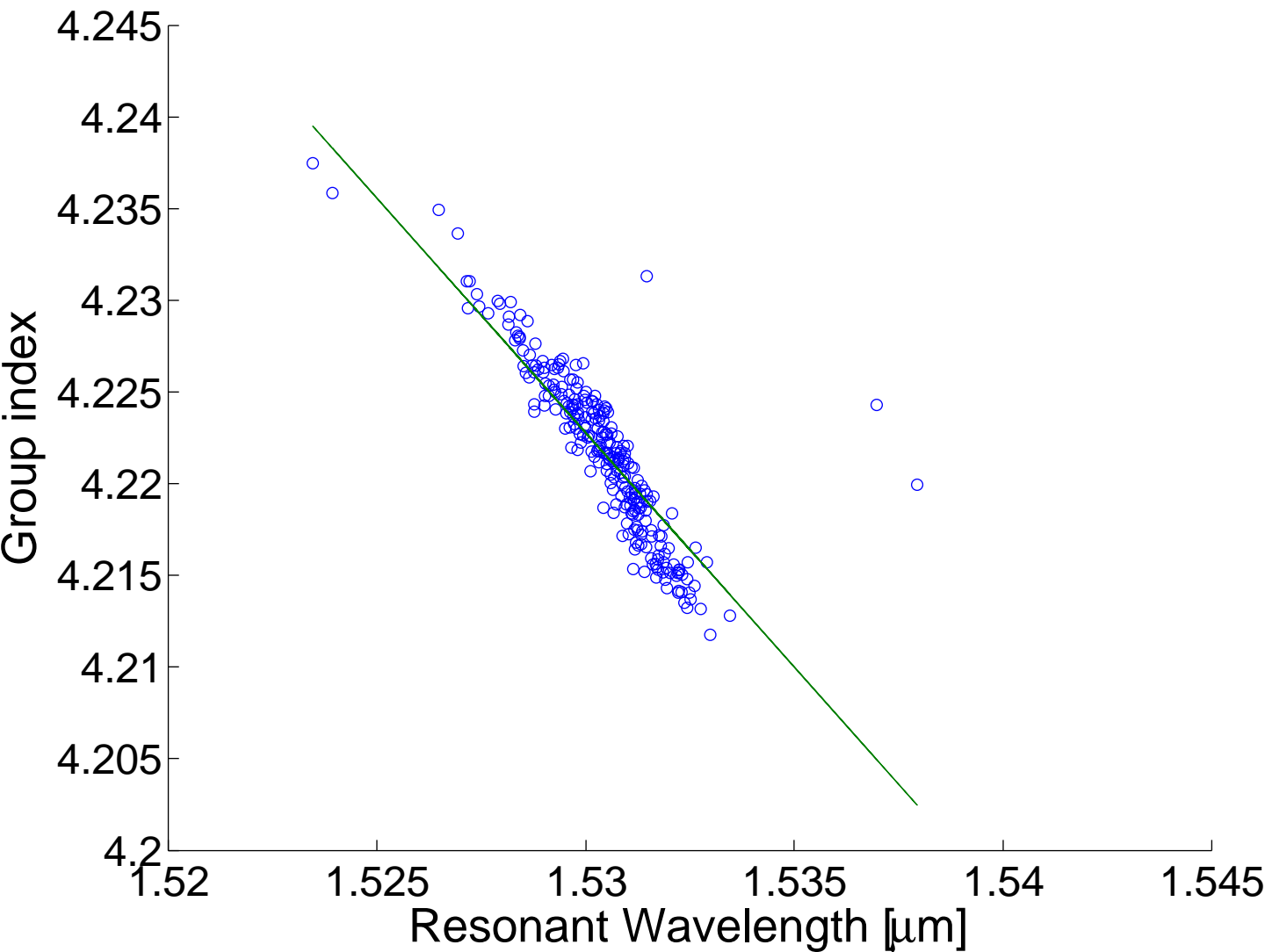
Wavelength [μm]



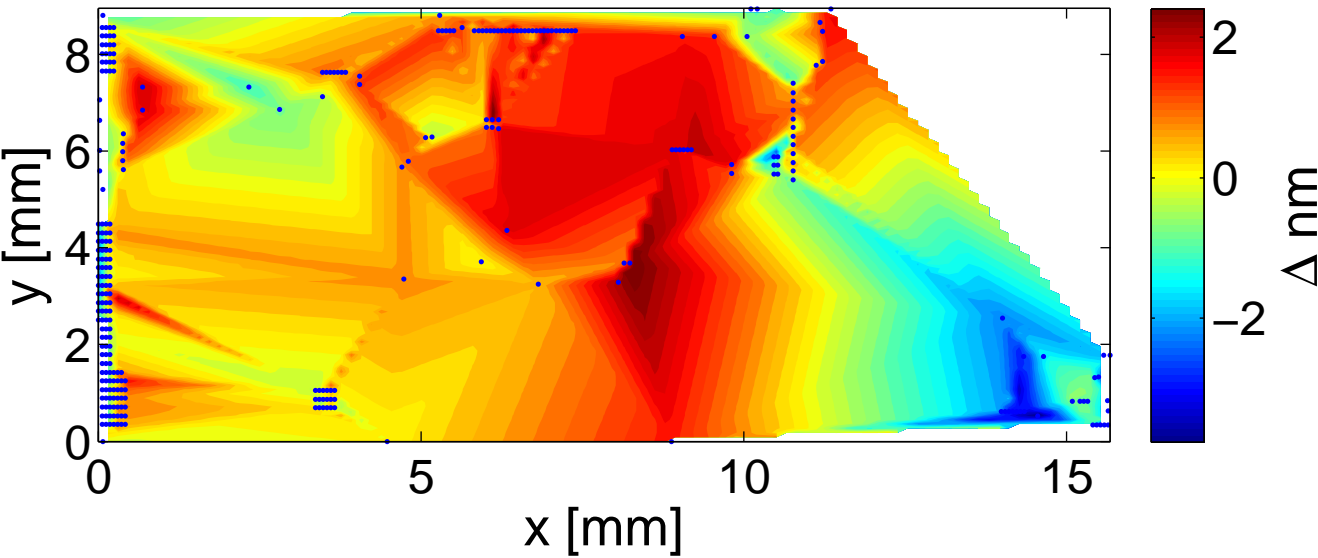
Physical location of test structures on chip



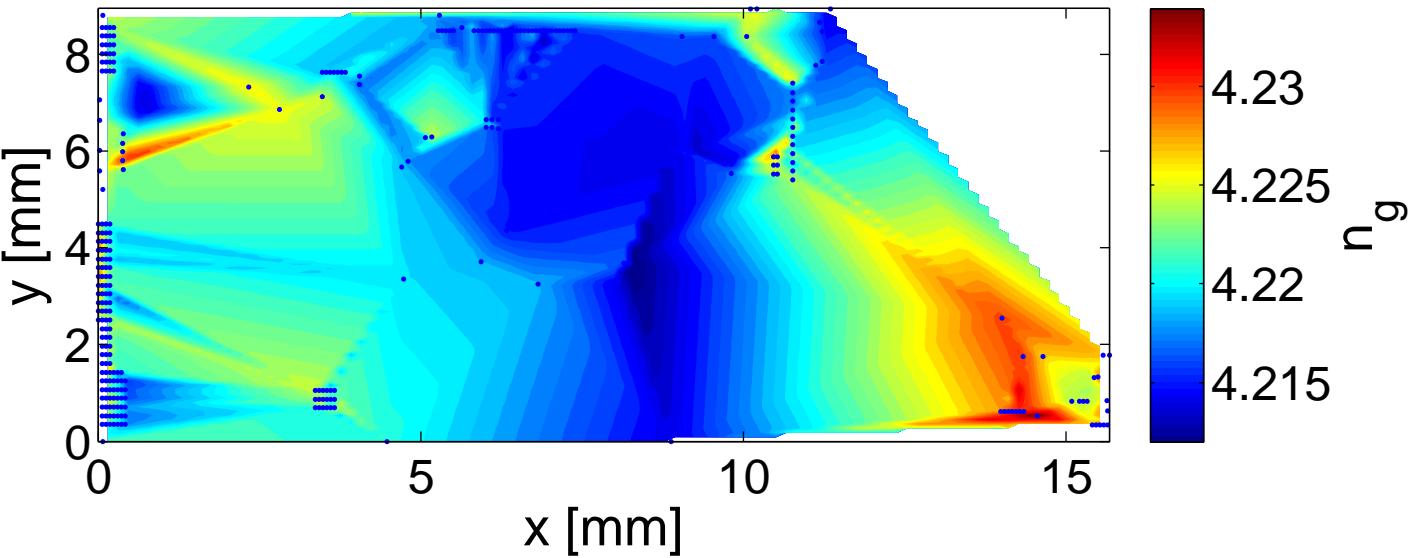
Resonances for a fixed mode number



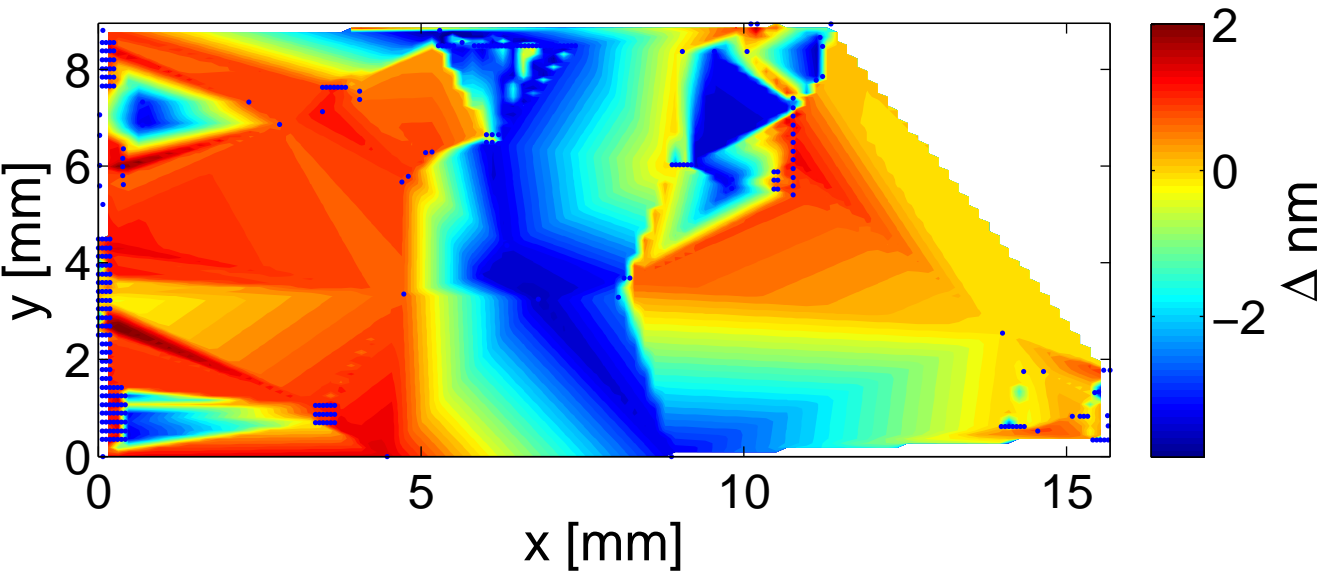
Resonator wavelength deviation, mean 1530.38nm



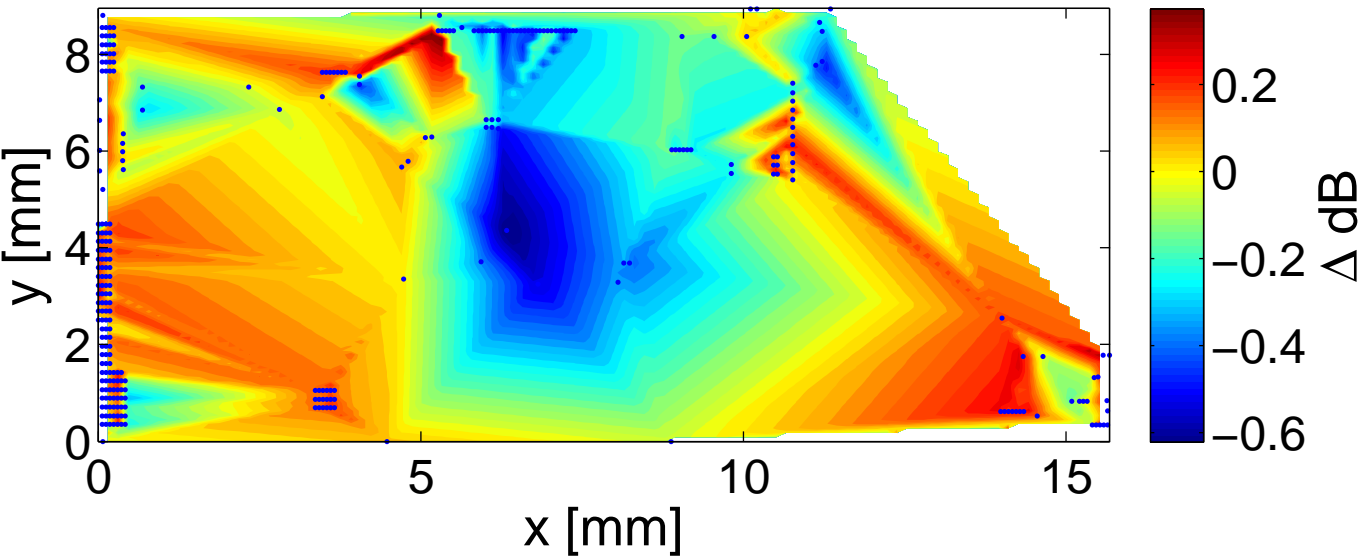
Waveguide Group Index



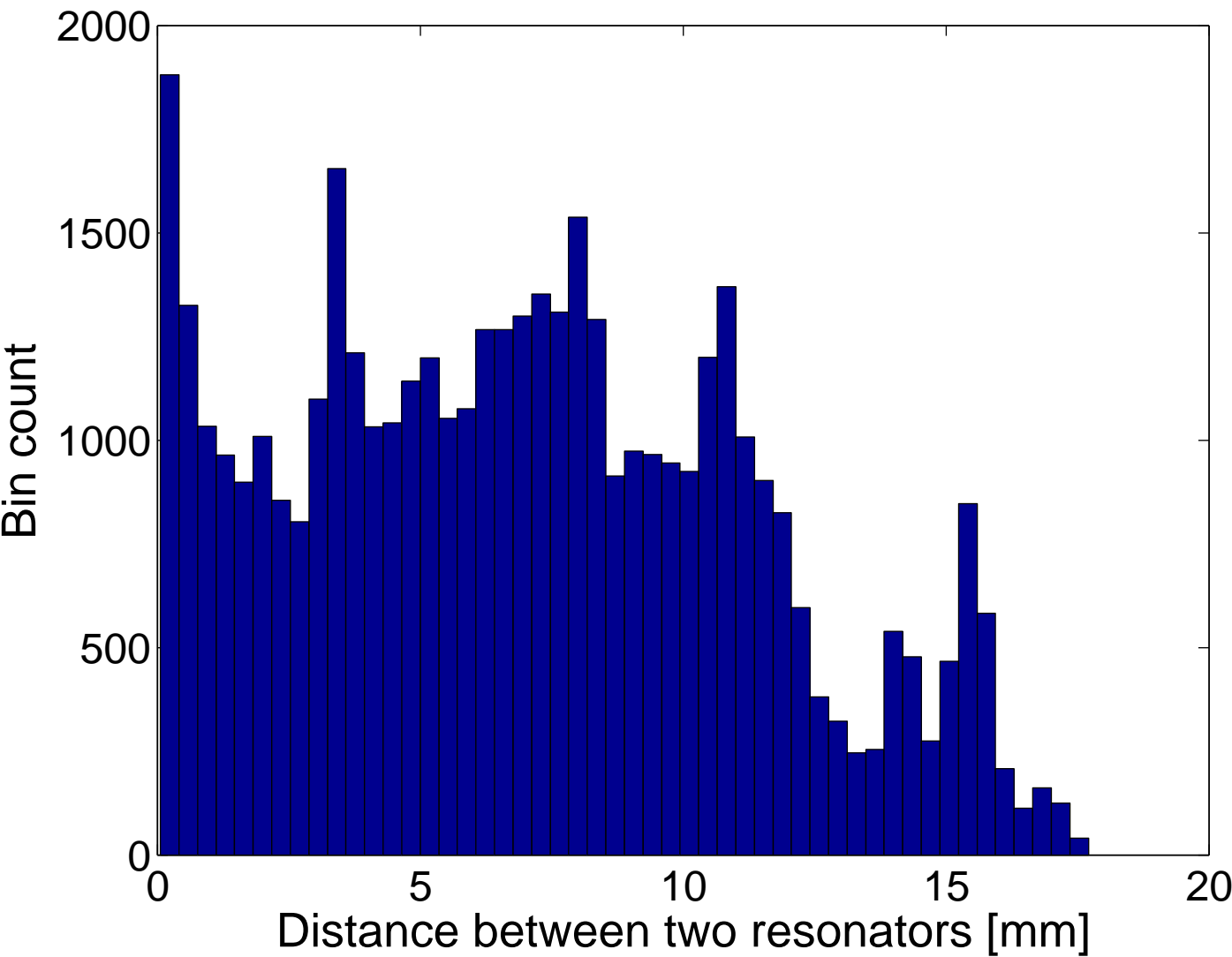
Grating coupler peak wavelength deviation, mean 1549.52nm



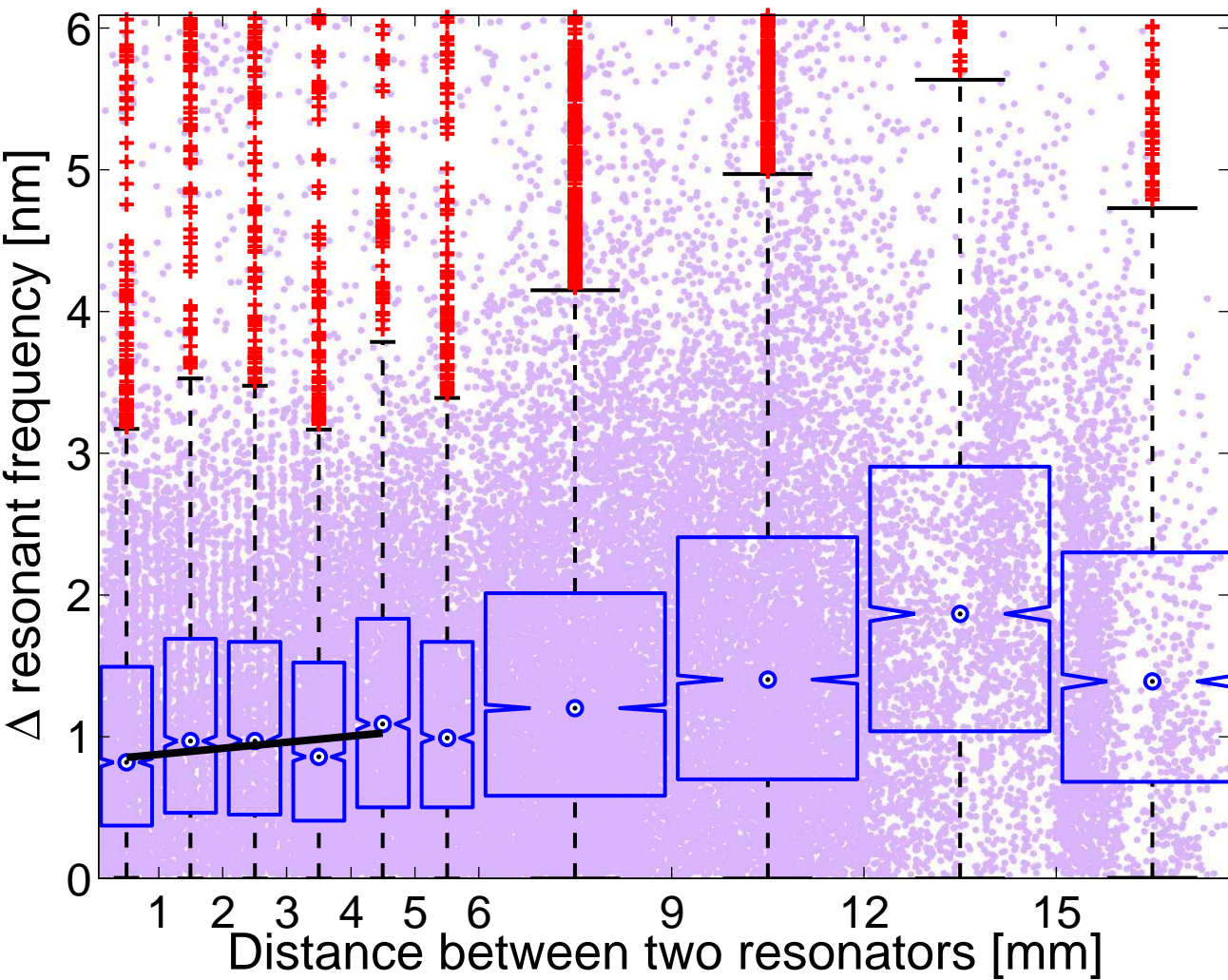
Grating coupler Insertion Loss deviation, mean -8.38 dB



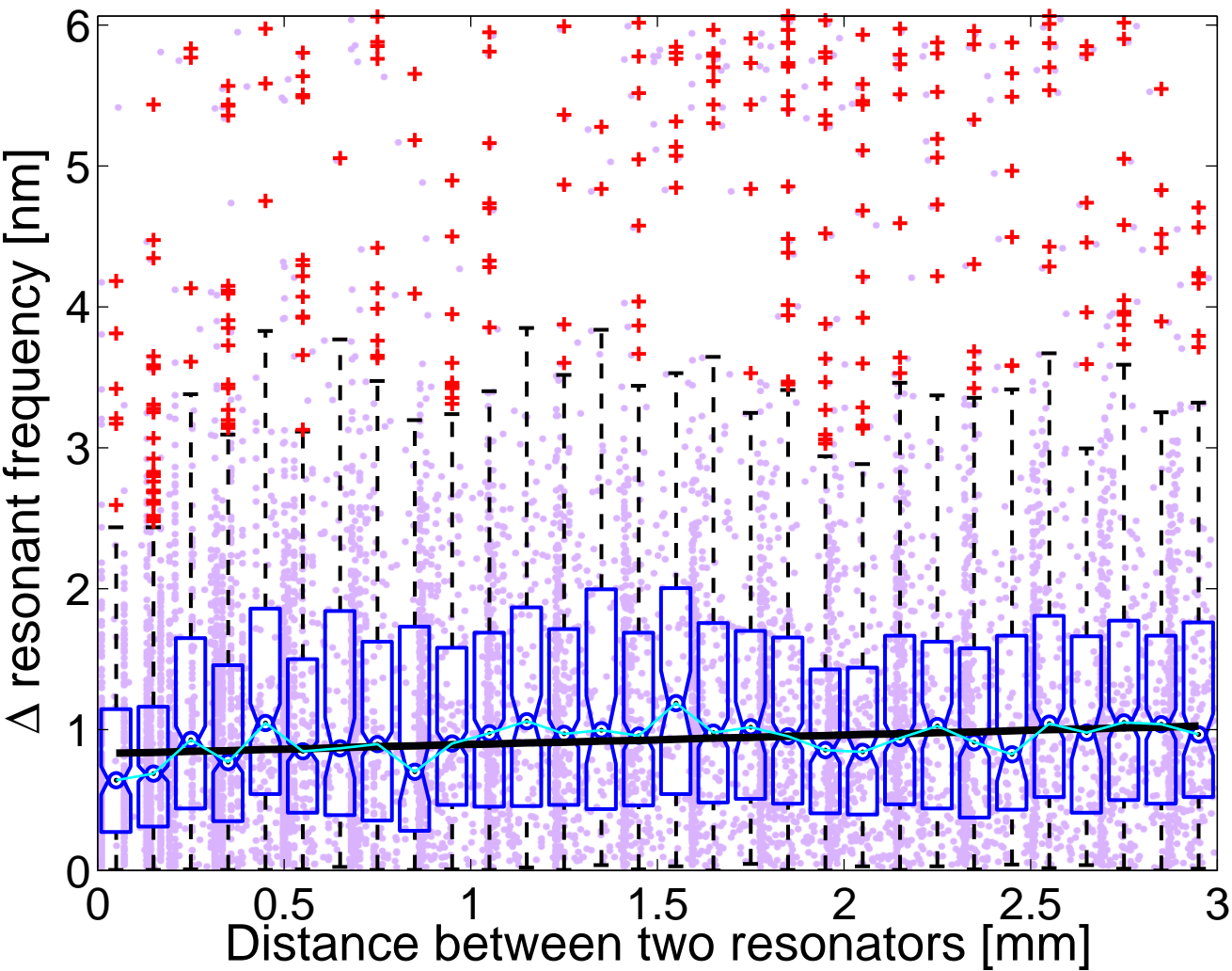
44253 combinations of 2 resonators



Resonator: 44253 combinations of 2 resonators, fit line $0.043164x + 0.83126$



Resonator: 44253 combinations of 2 resonators, fit line $0.066633x + 0.82664$



Grating coupler wavelength: 44253 combinations of 2 GC pairs, fit line $0.0236x + 0.66$

