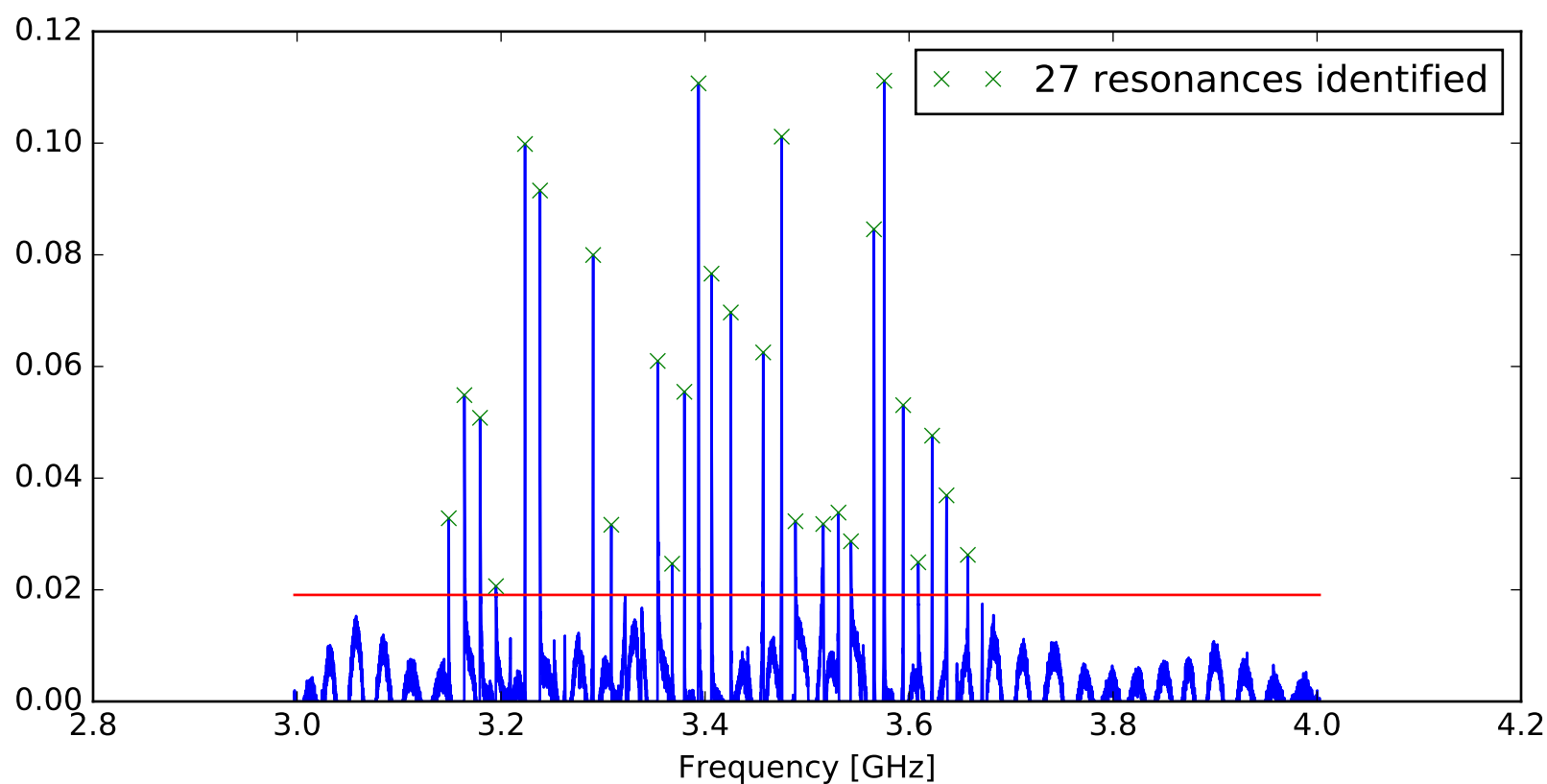
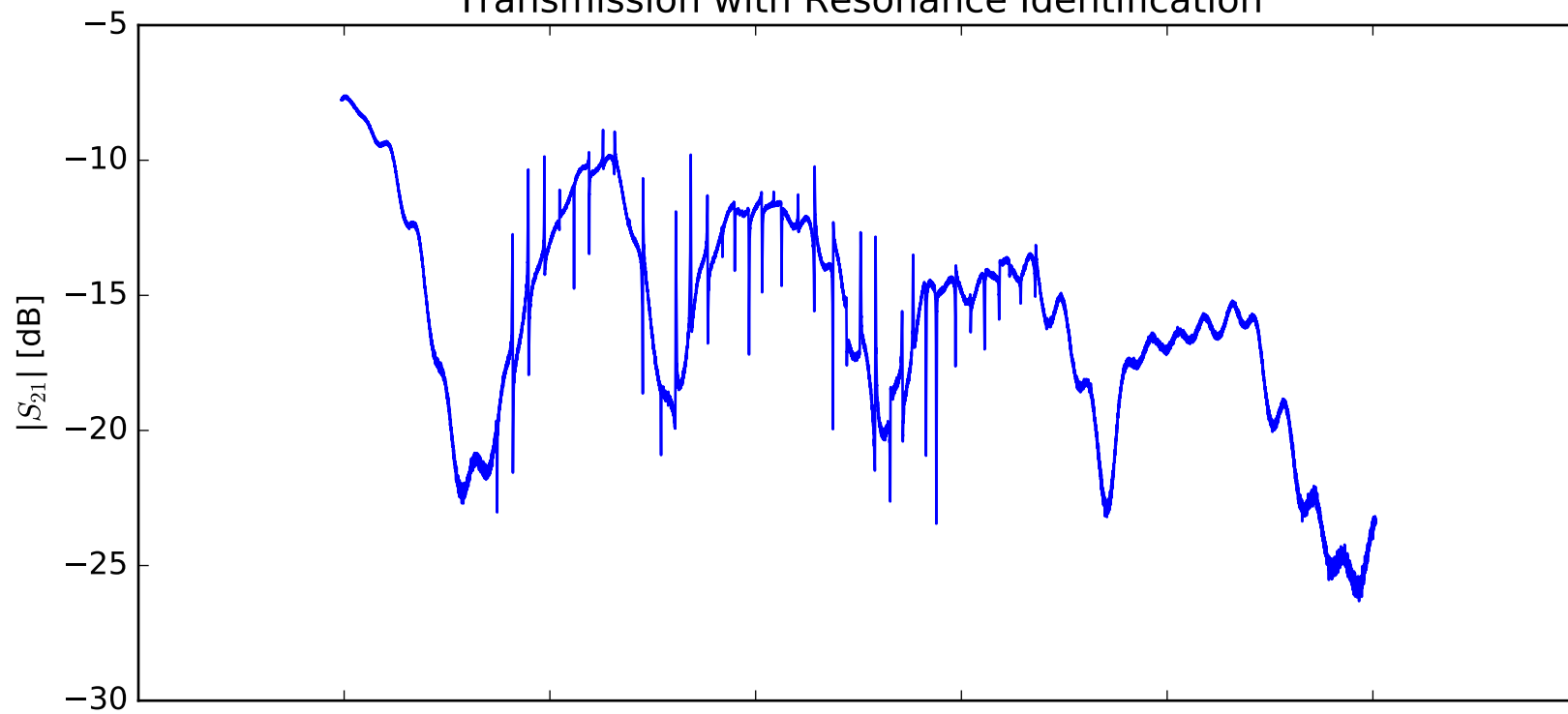
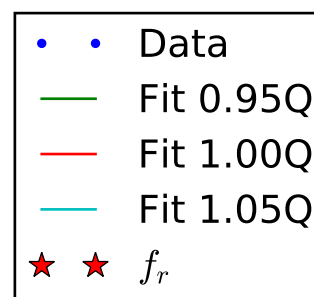
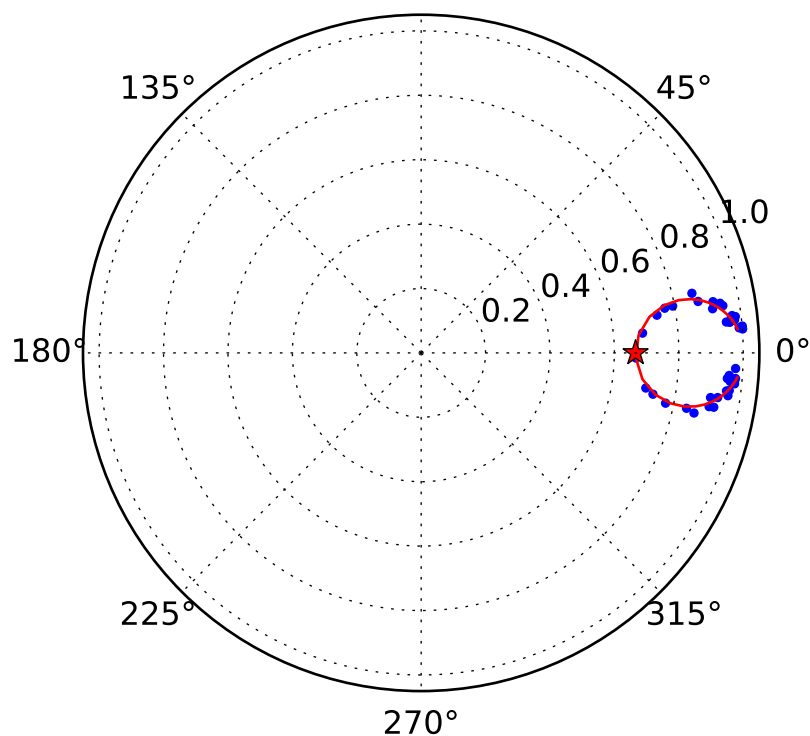
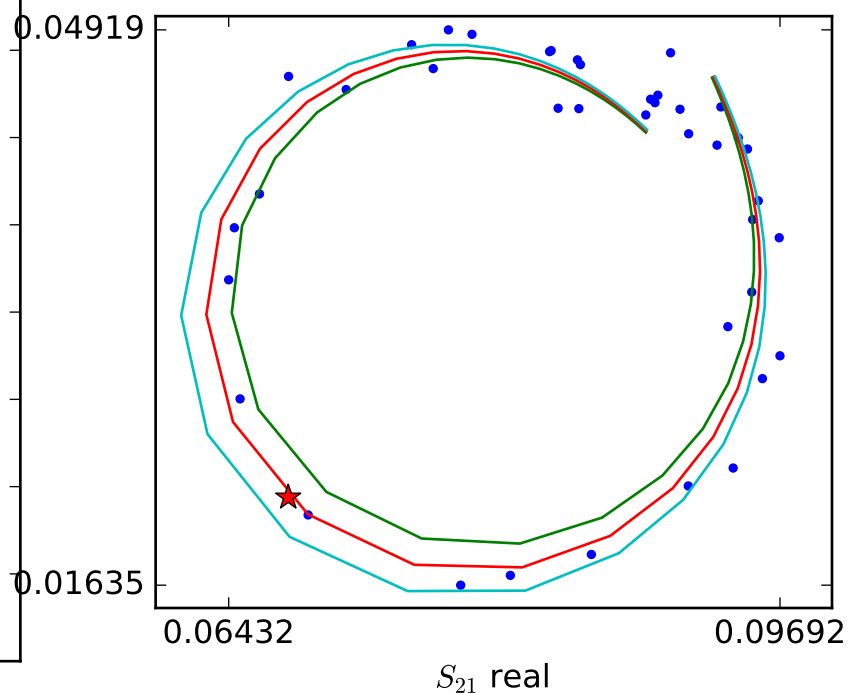
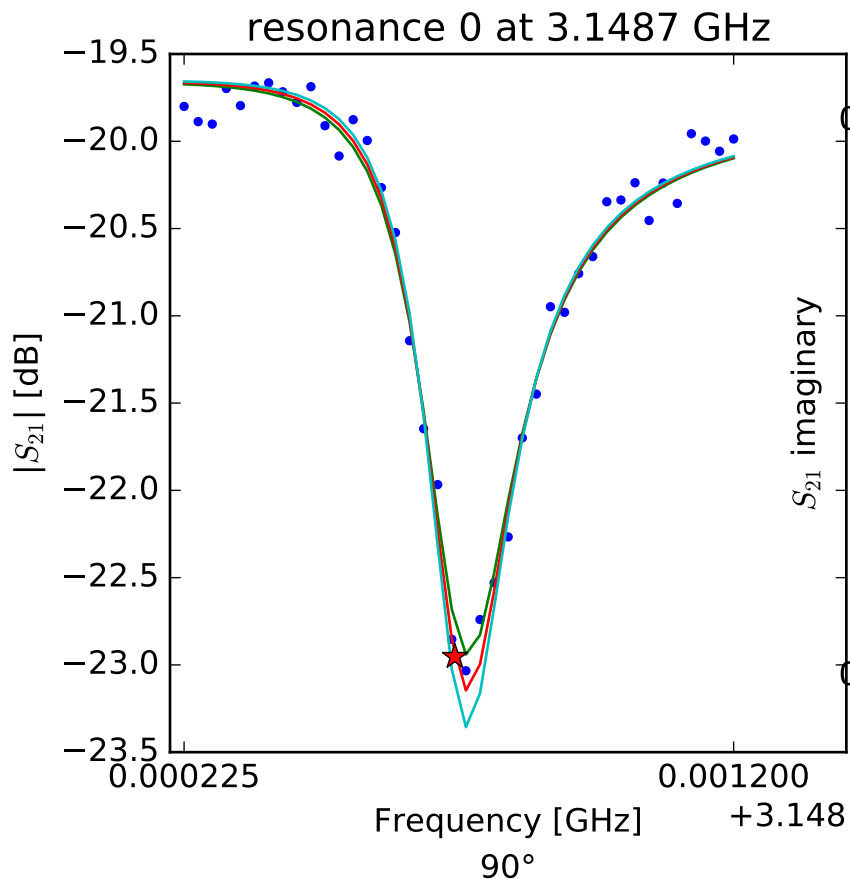


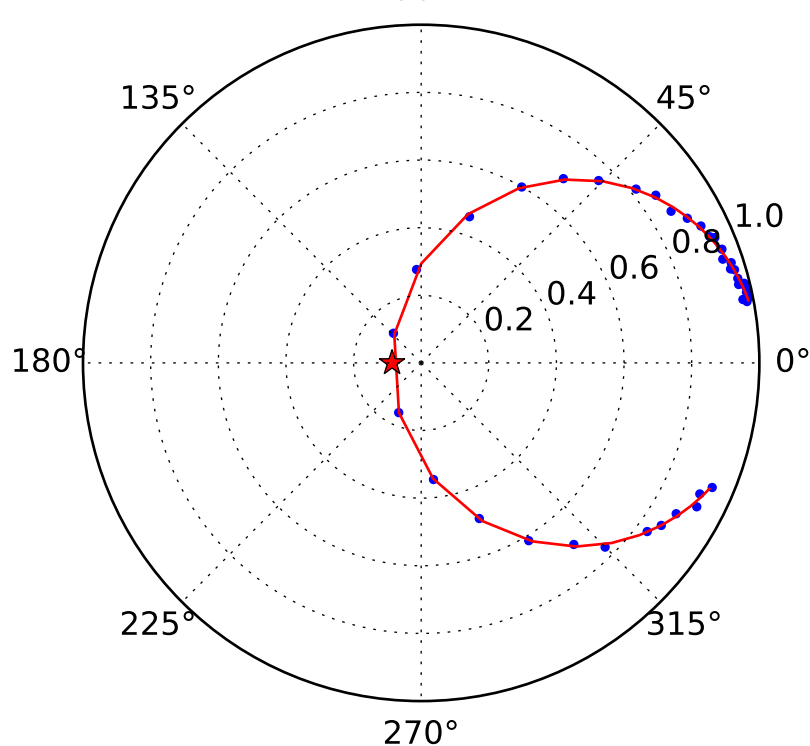
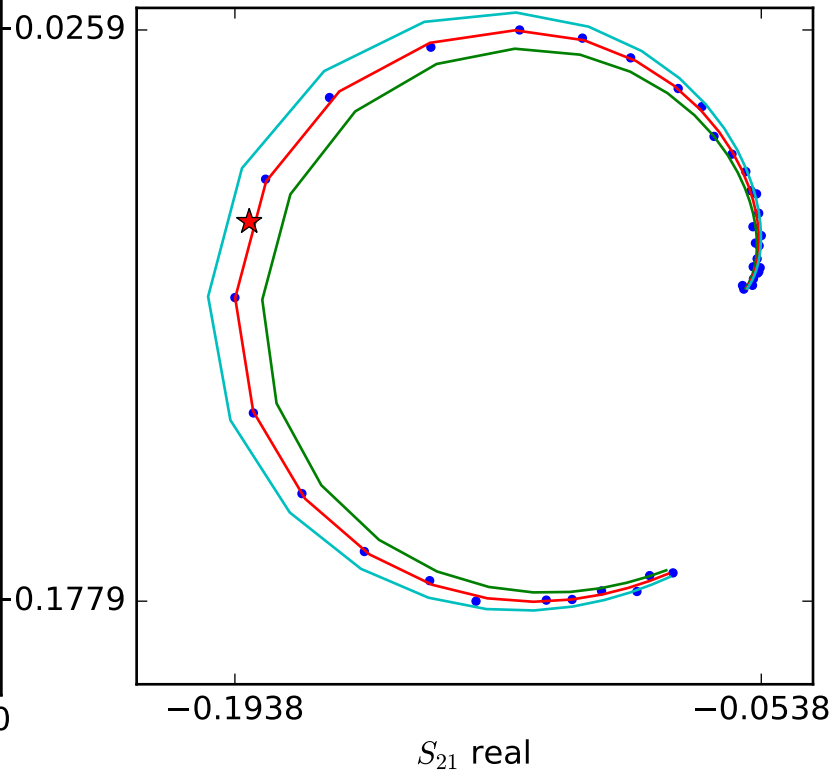
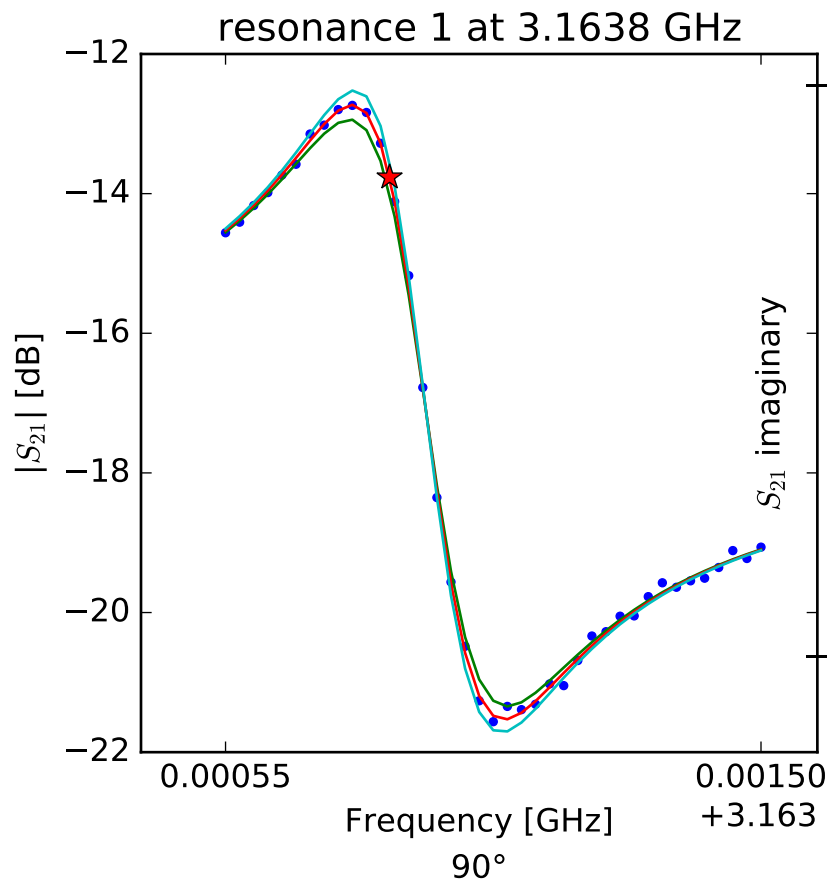
Transmission with Resonance Identification





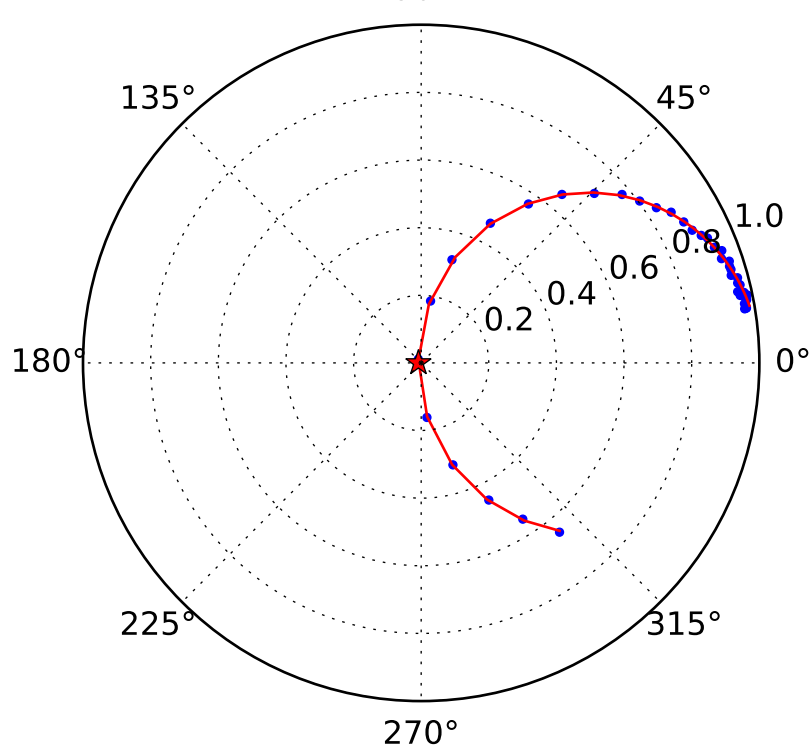
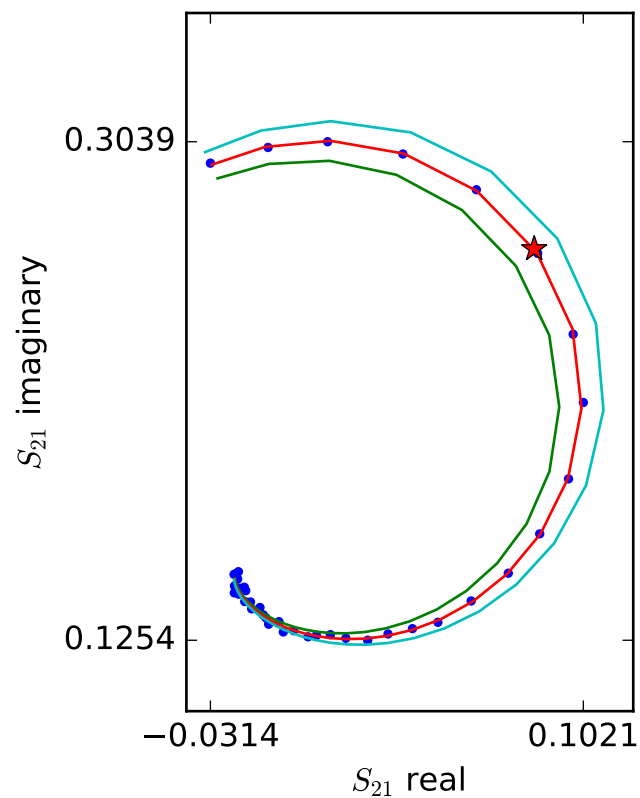
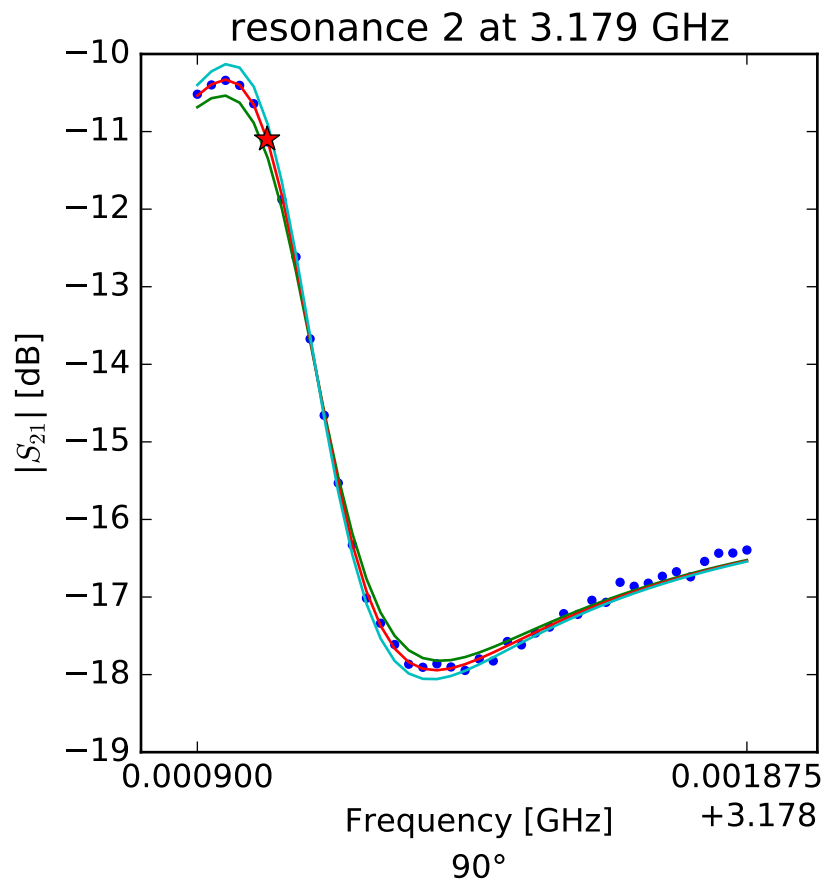
$$S_{21}(f) = ae^{-2\pi jf\tau} \left[1 - \frac{Q_r/Q_c e^{j\phi_0}}{1 + 2jQ_r \left(\frac{f-f_r}{f_r} \right)} \right]$$

$$\begin{aligned} f_r &= 3.14870536638 \\ Q_r &= 13564.5707458 \\ Q_c &= 40572.1206205 \\ a &= (0.0144349930572 + 0.10187262028j) \\ \phi_0 &= 0.327326688239 \\ \tau &= 25.4561214421 \end{aligned}$$



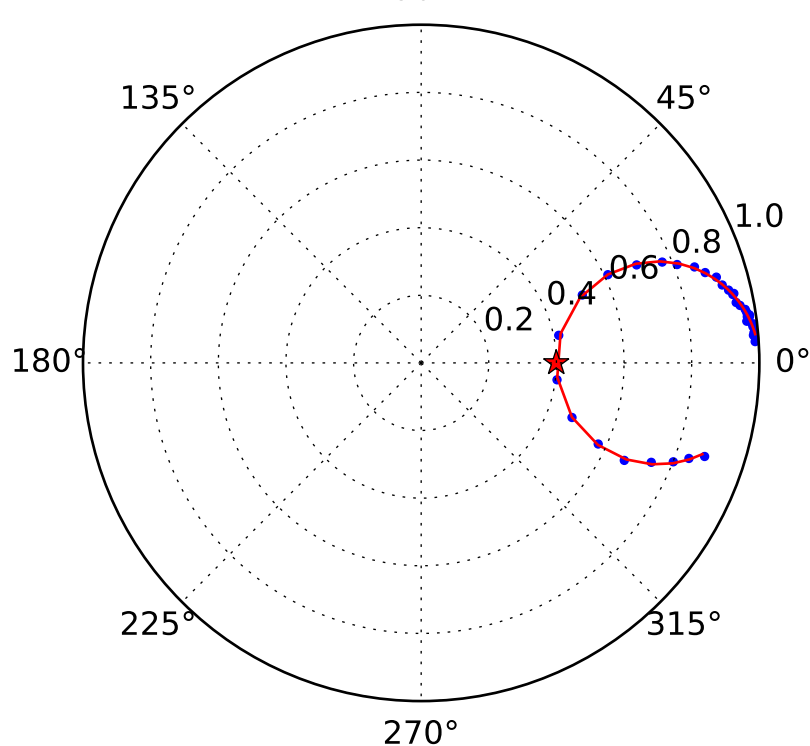
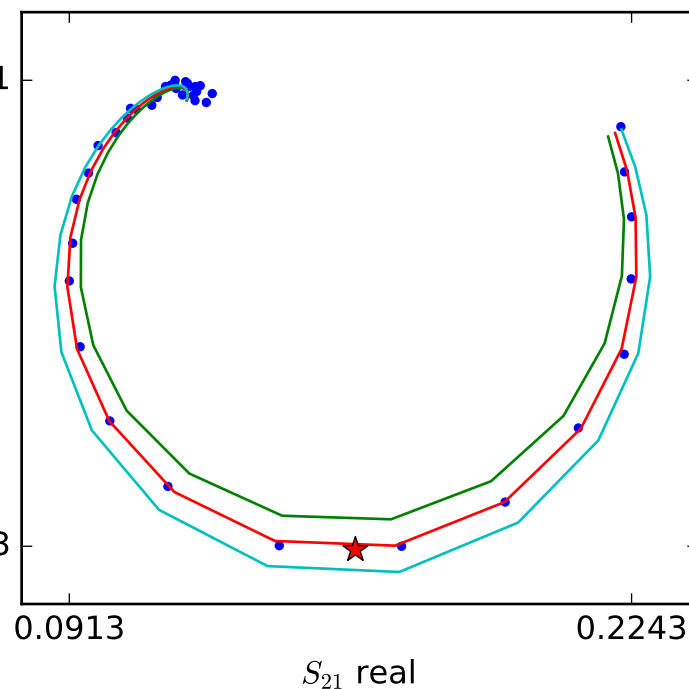
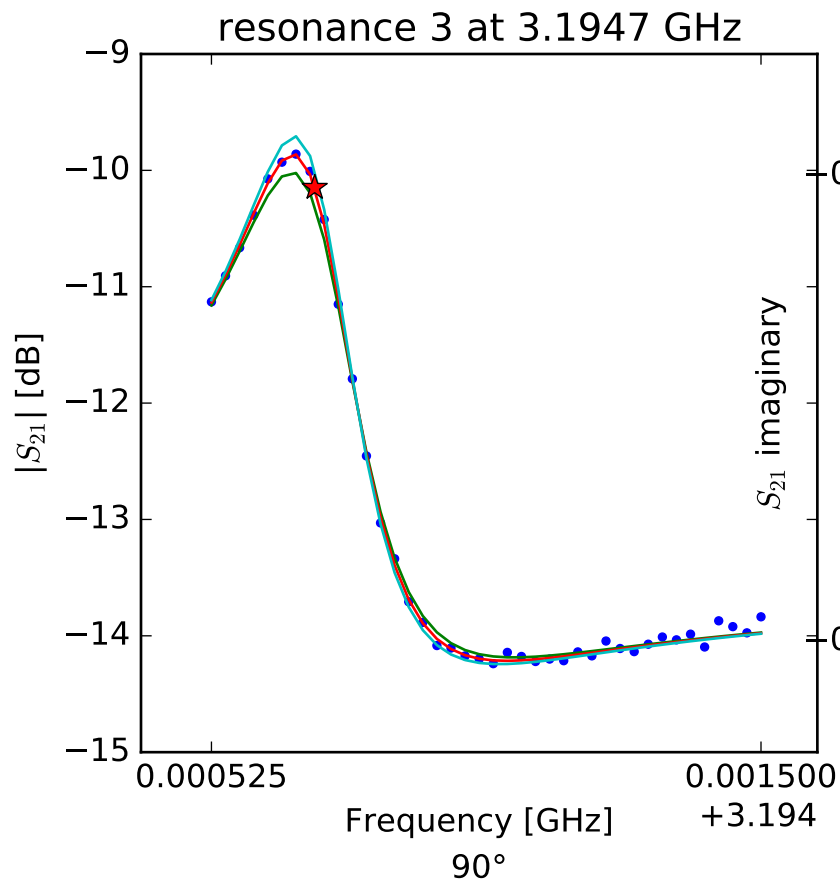
$$S_{21}(f) = ae^{-2\pi jf\tau} \left[1 - \frac{Q_r/Q_c e^{j\phi_0}}{1 + 2jQ_r \left(\frac{f-f_r}{f_r} \right)} \right]$$

$$\begin{aligned} f_r &= 3.16384100336 \\ Q_r &= 13681.7444038 \\ Q_c &= 12597.0124183 \\ a &= (-0.00483188796067 - 0.135446409527j) \\ \phi_0 &= 1.62068053764 \\ \tau &= 26.5676608504 \end{aligned}$$



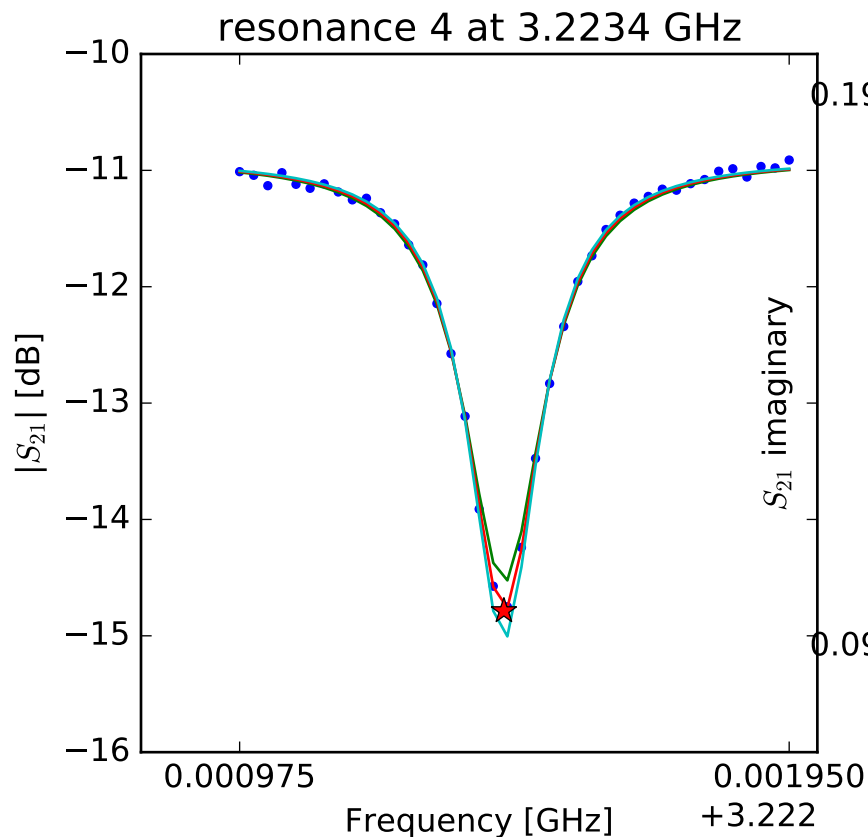
$$S_{21}(f) = ae^{-2\pi jf\tau} \left[1 - \frac{Q_r/Q_c e^{j\phi_0}}{1 + 2jQ_r \left(\frac{f-f_r}{f_r} \right)} \right]$$

$$\begin{aligned} f_r &= 3.17902380934 \\ Q_r &= 10789.4016696 \\ Q_c &= 10702.5214902 \\ a &= (-0.0809220314953 + 0.156664605489j) \\ \phi_0 &= 1.81186235856 \\ \tau &= 23.283444369 \end{aligned}$$



$$S_{21}(f) = ae^{-2\pi jf\tau} \left[1 - \frac{Q_r/Q_c e^{j\phi_0}}{1 + 2jQ_r \left(\frac{f-f_r}{f_r} \right)} \right]$$

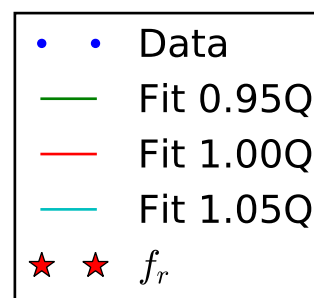
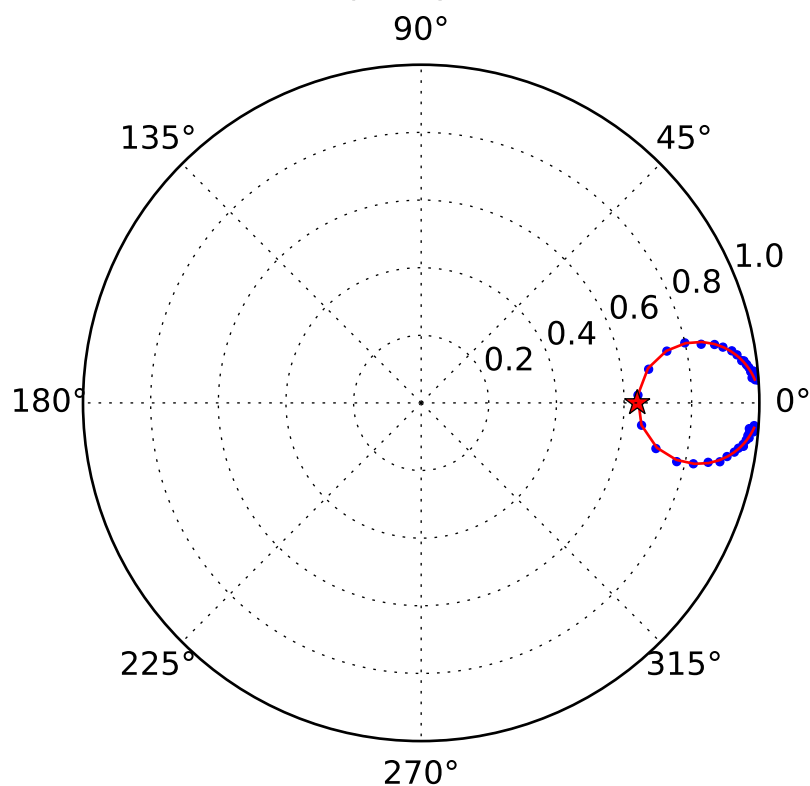
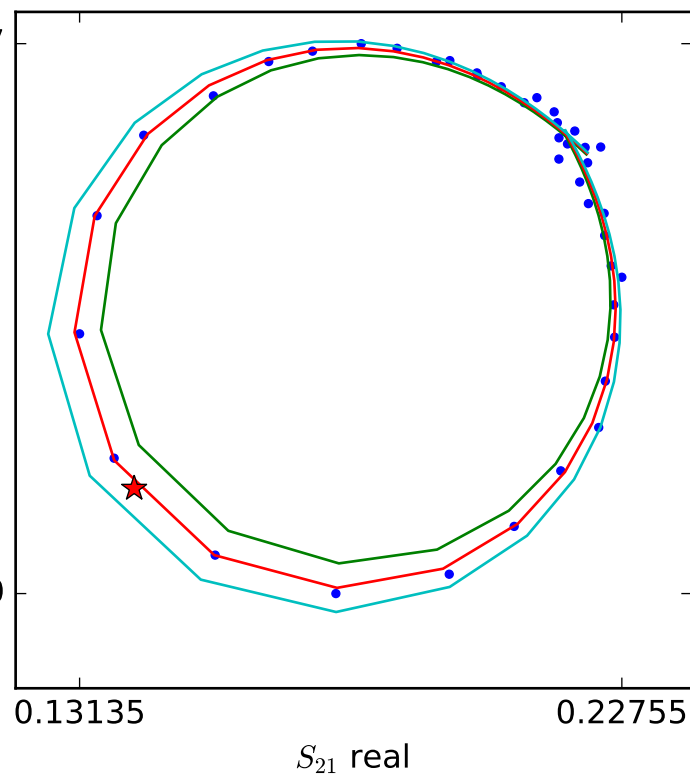
$$\begin{aligned} f_r &= 3.19470818019 \\ Q_r &= 13951.6751634 \\ Q_c &= 23228.8420317 \\ a &= (0.209938669617 - 0.0220587711551j) \\ \phi_0 &= 2.30883530708 \\ \tau &= 27.263567452 \end{aligned}$$



S_{21} imaginary

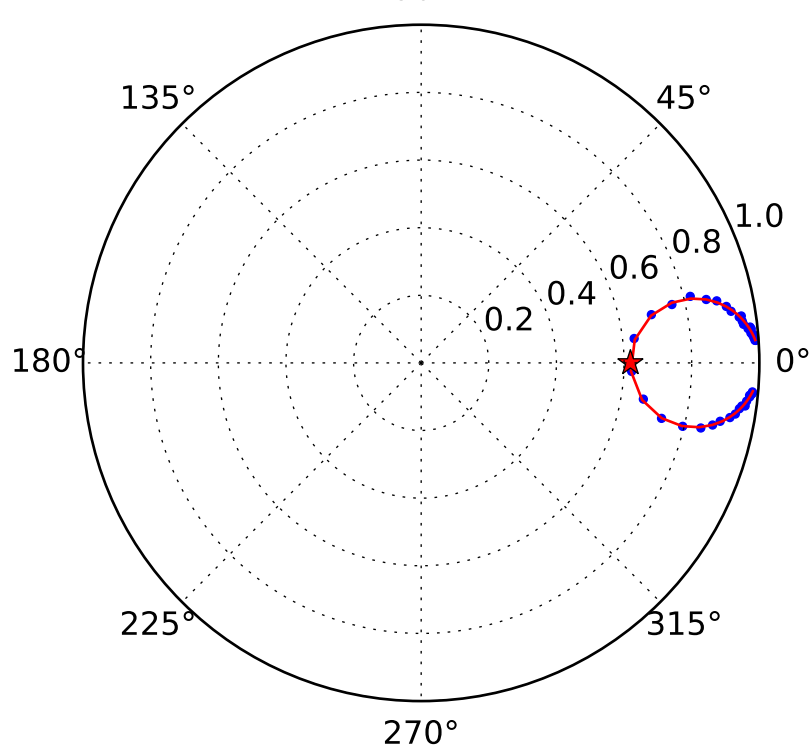
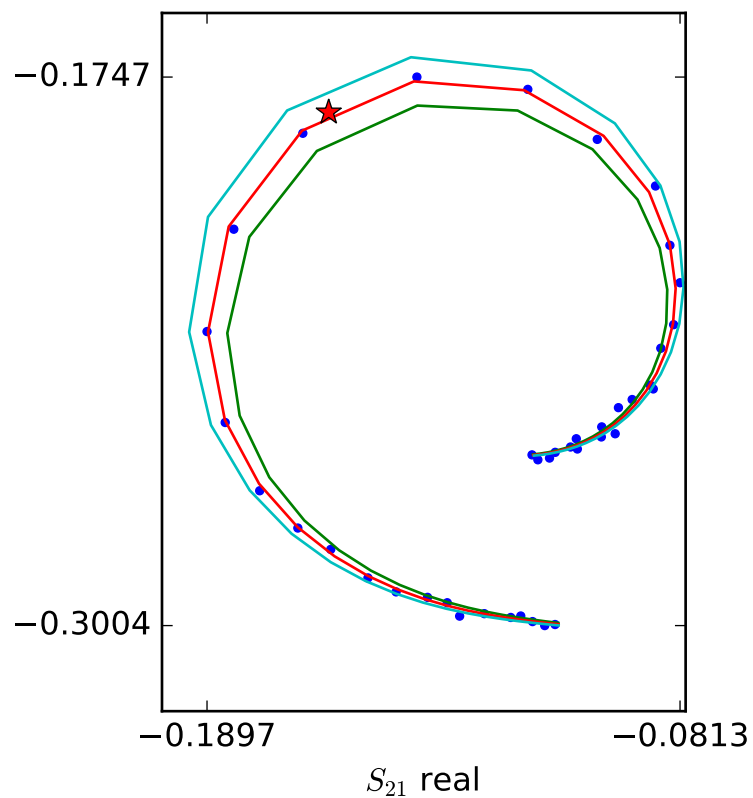
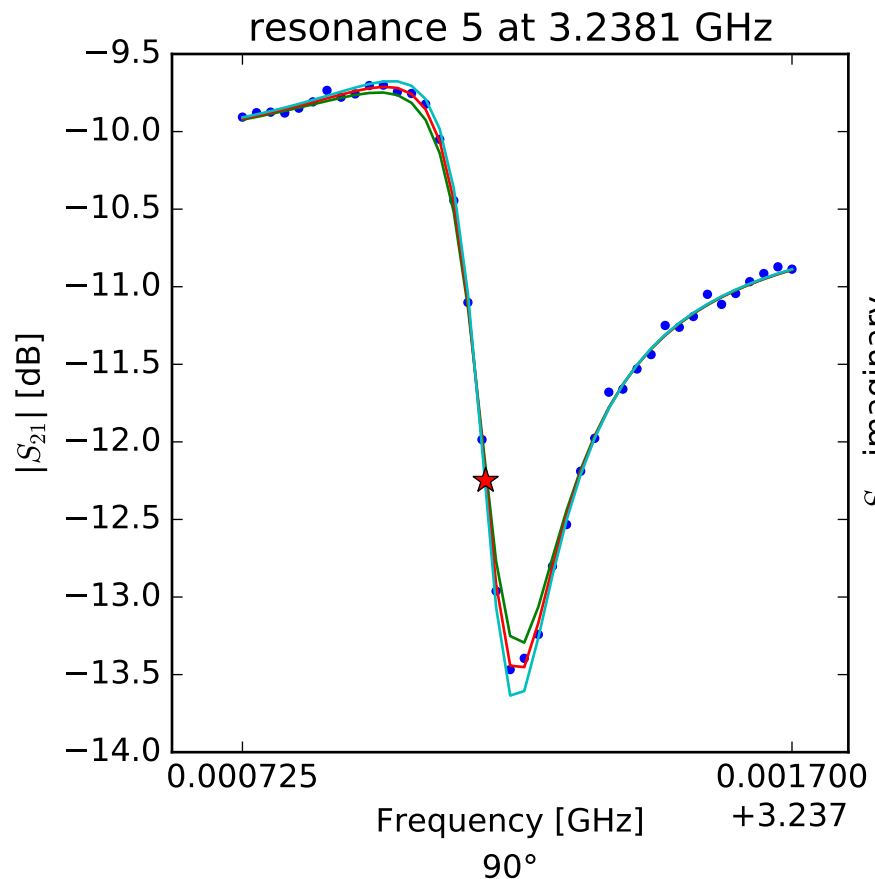
0.19437

0.09680



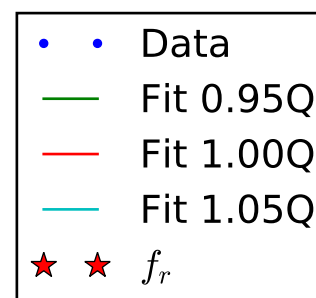
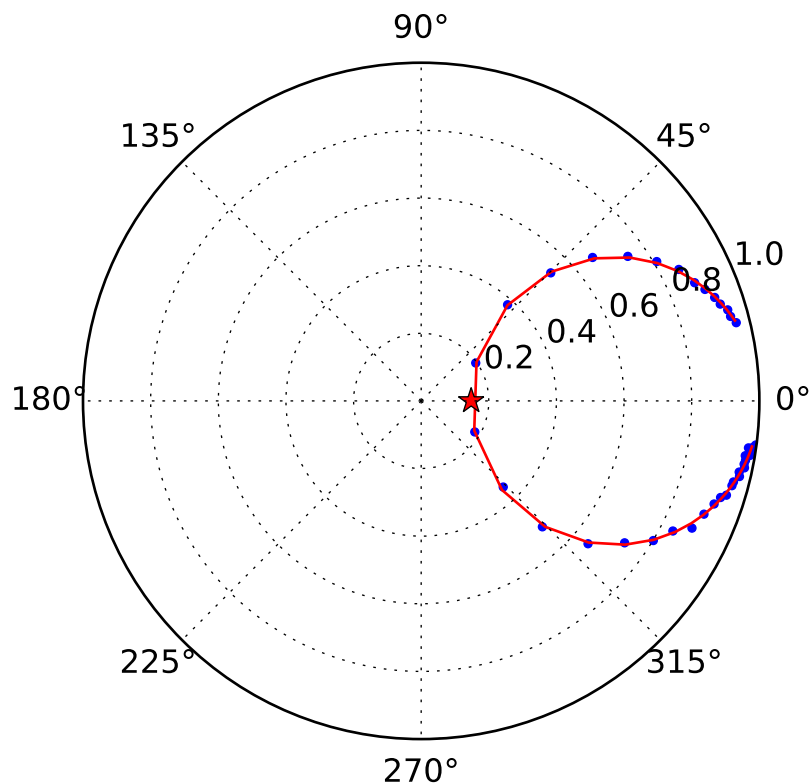
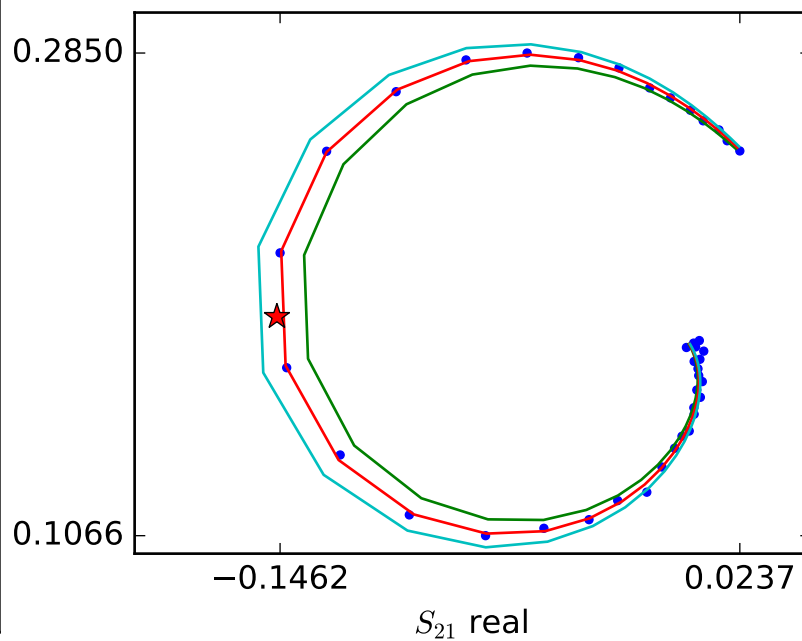
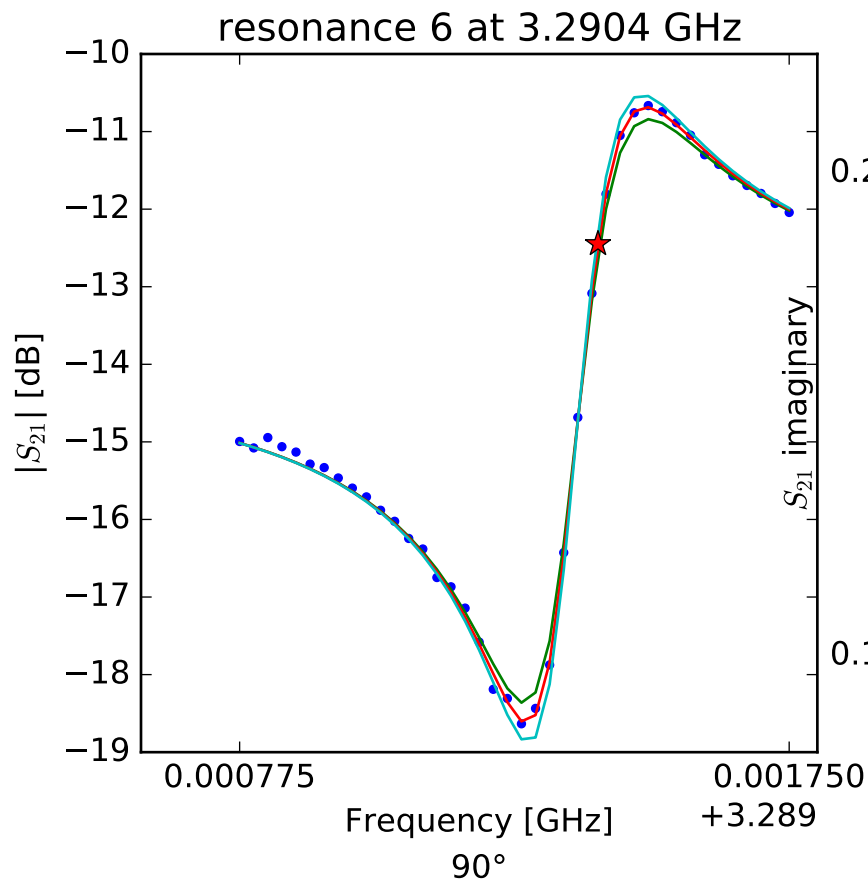
$$S_{21}(f) = ae^{-2\pi jf\tau} \left[1 - \frac{Q_r/Q_c e^{j\phi_0}}{1 + 2jQ_r \left(\frac{f-f_r}{f_r} \right)} \right]$$

$$\begin{aligned} f_r &= 3.22344387019 \\ Q_r &= 16083.3784611 \\ Q_c &= 44540.5579169 \\ a &= (-0.132784695252 - 0.252487913669j) \\ \phi_0 &= -0.00281089692741 \\ \tau &= 26.8545146646 \end{aligned}$$



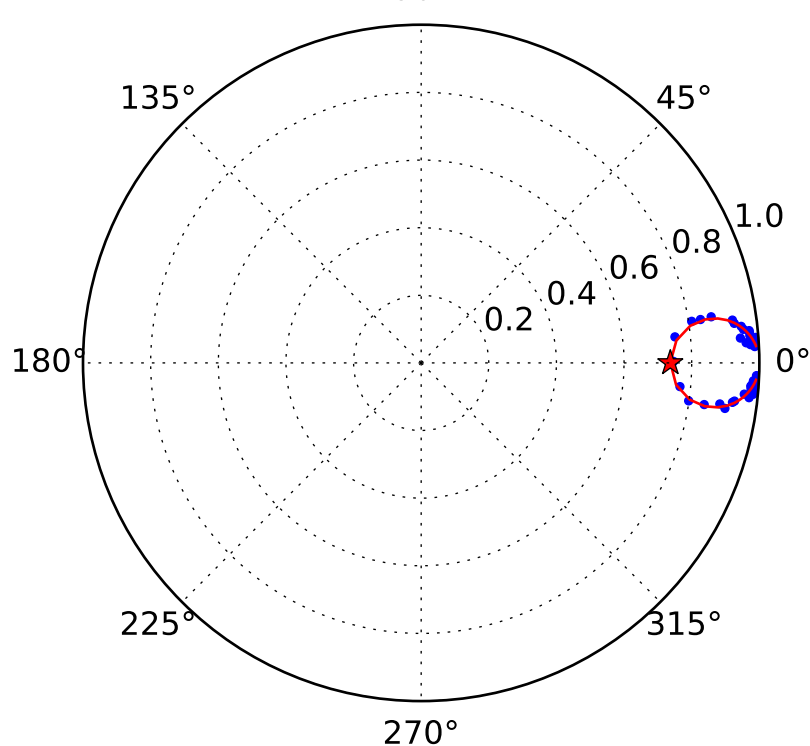
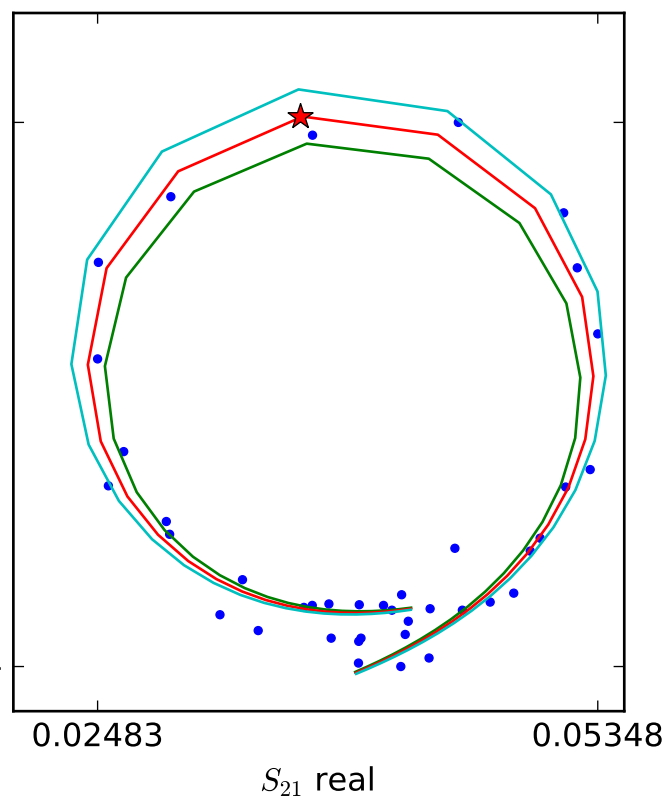
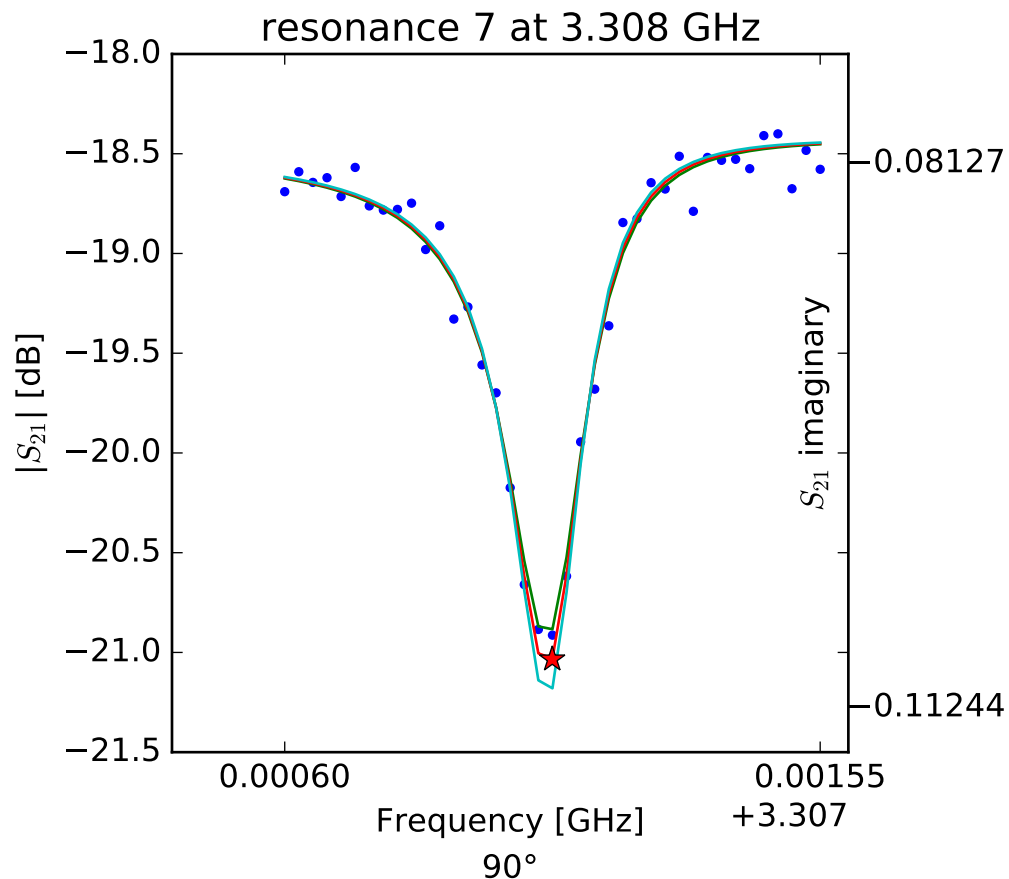
$$S_{21}(f) = ae^{-2\pi jf\tau} \left[1 - \frac{Q_r/Q_c e^{j\phi_0}}{1 + 2jQ_r \left(\frac{f-f_r}{f_r} \right)} \right]$$

$$\begin{aligned} f_r &= 3.23815645982 \\ Q_r &= 16258.088897 \\ Q_c &= 42642.9156825 \\ a &= (-0.291955756566 + 0.081933793431j) \\ \phi_0 &= 0.860093793705 \\ \tau &= 27.4116919089 \end{aligned}$$



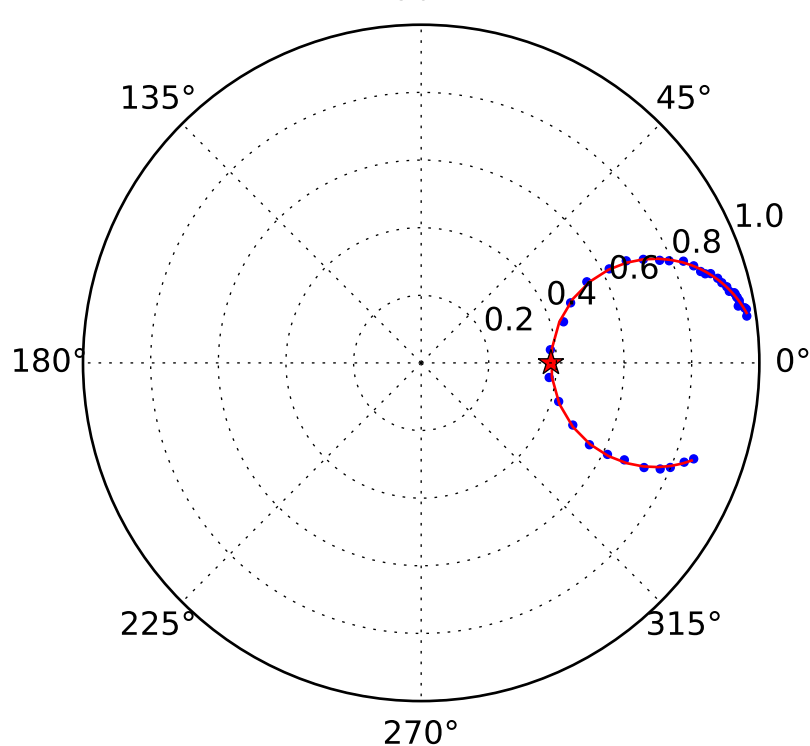
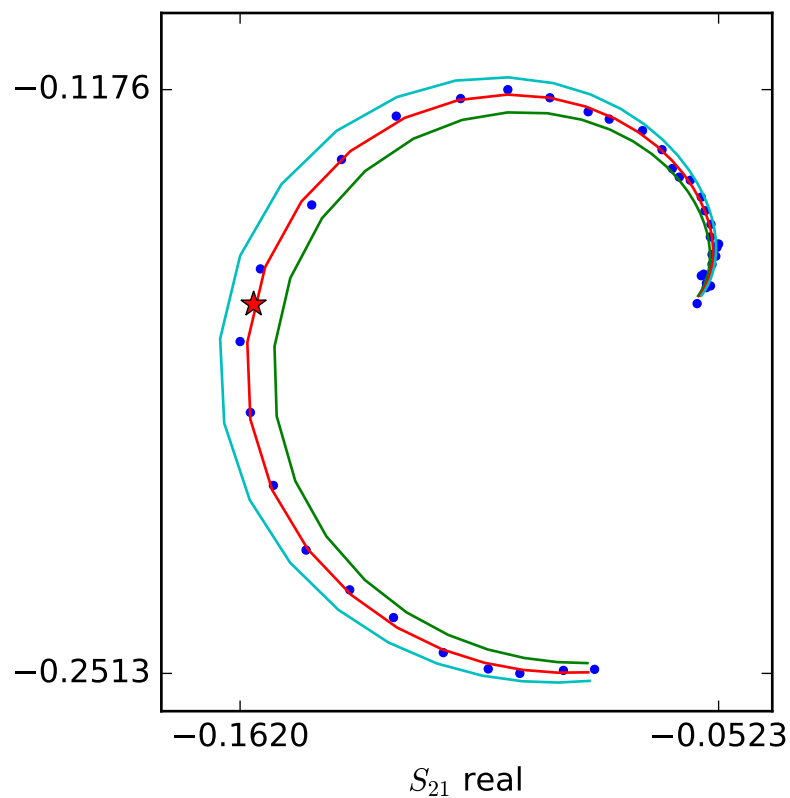
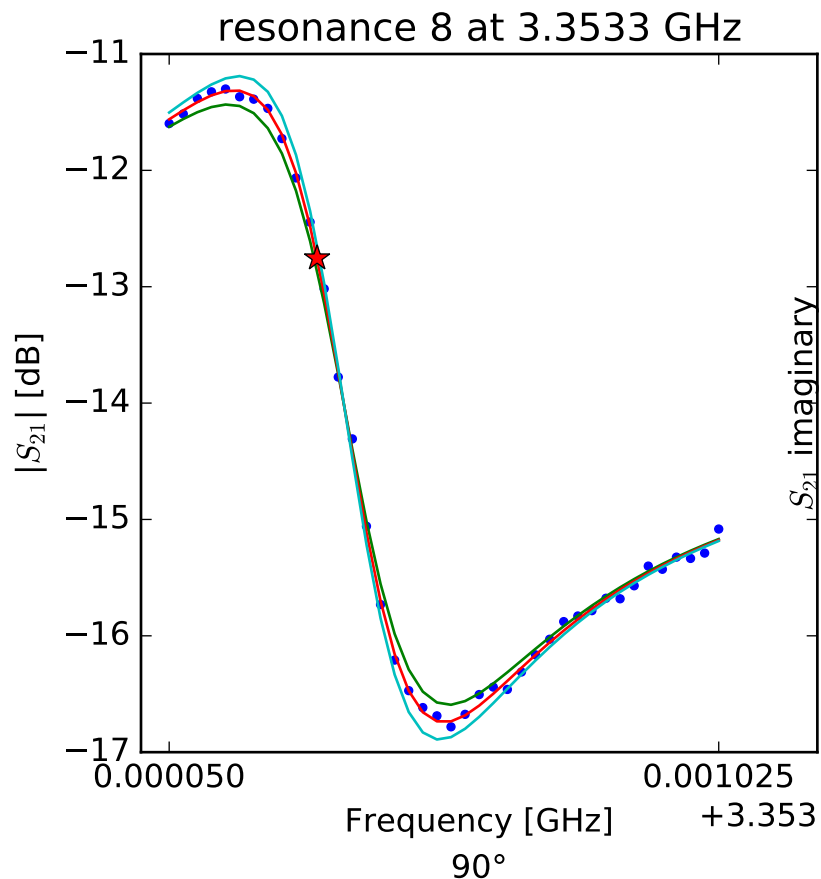
$$S_{21}(f) = ae^{-2\pi jf\tau} \left[1 - \frac{Q_r/Q_c e^{j\phi_0}}{1 + 2jQ_r \left(\frac{f-f_r}{f_r} \right)} \right]$$

$f_r = 3.29041075743$
 $Q_r = 15925.5447952$
 $Q_c = 18687.1222595$
 $a = (-0.20231281167 - 0.0363821473367j)$
 $\phi_0 = -1.3463969545$
 $\tau = 28.3549083351$



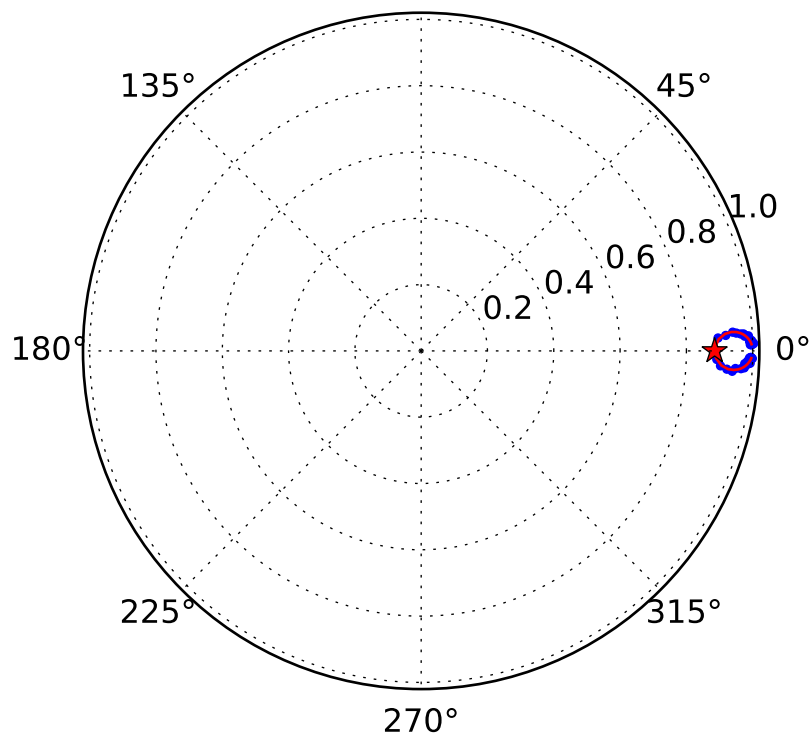
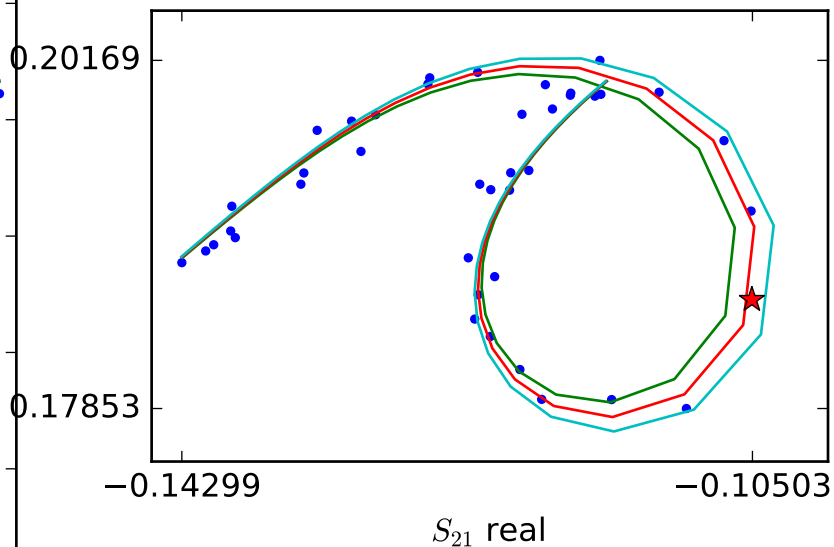
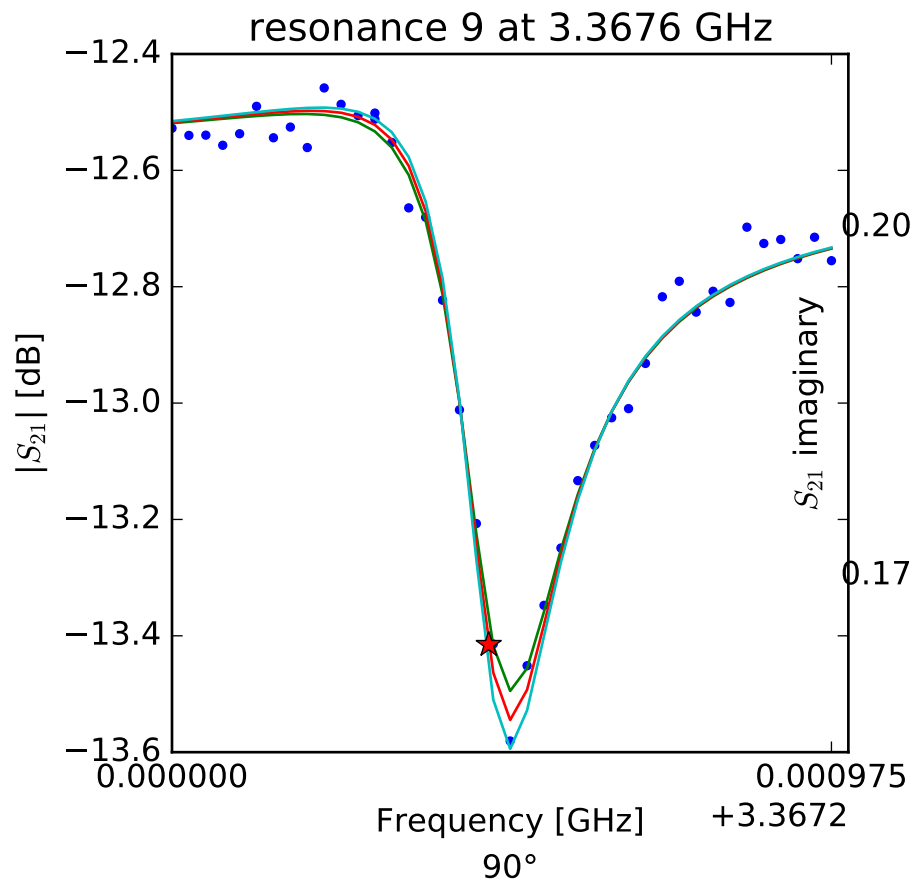
$$S_{21}(f) = ae^{-2\pi jf\tau} \left[1 - \frac{Q_r/Q_c e^{j\phi_0}}{1 + 2jQ_r \left(\frac{f-f_r}{f_r} \right)} \right]$$

$$\begin{aligned} f_r &= 3.30807463428 \\ Q_r &= 17635.5283739 \\ Q_c &= 66990.229855 \\ a &= (-0.116383140755 - 0.0266820369589j) \\ \phi_0 &= -0.195568389766 \\ \tau &= 22.5900233254 \end{aligned}$$



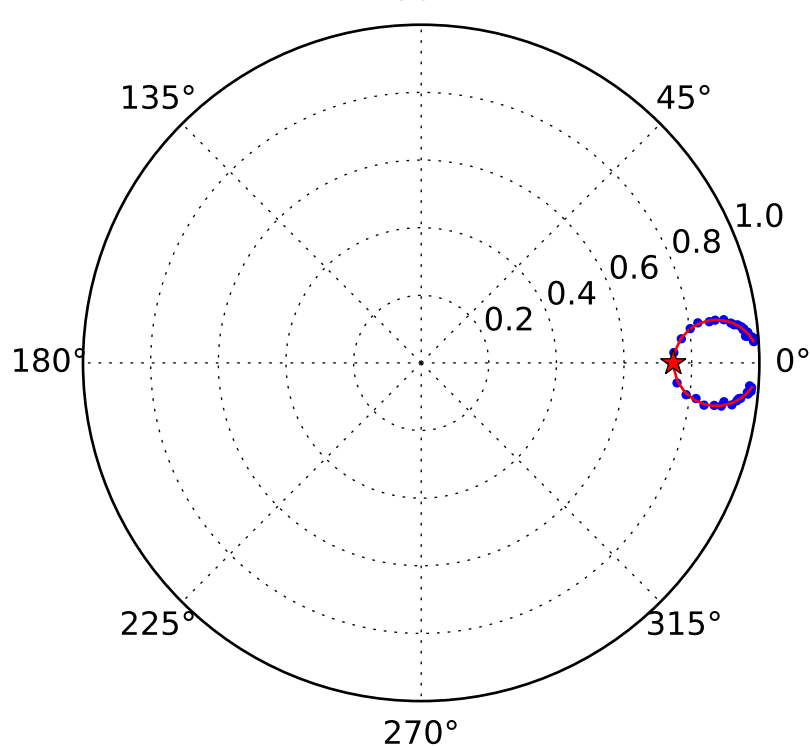
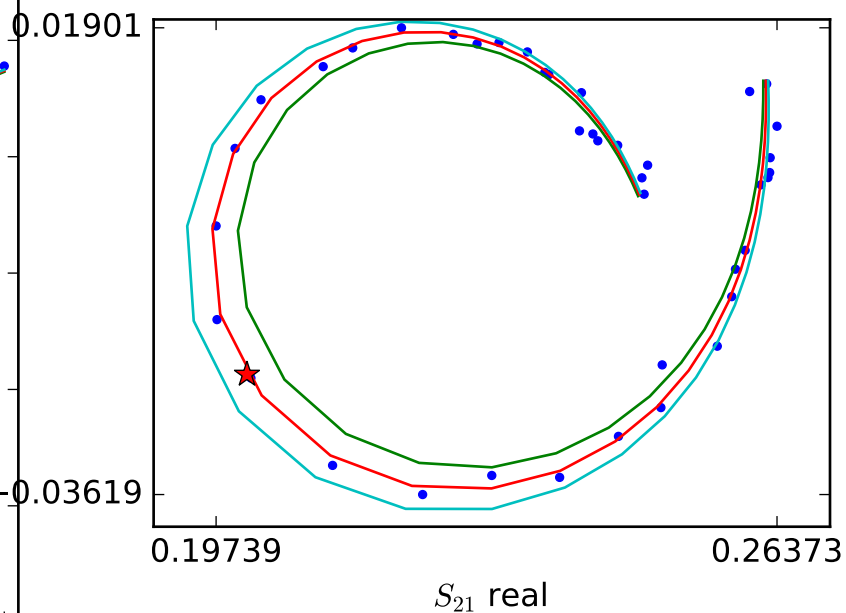
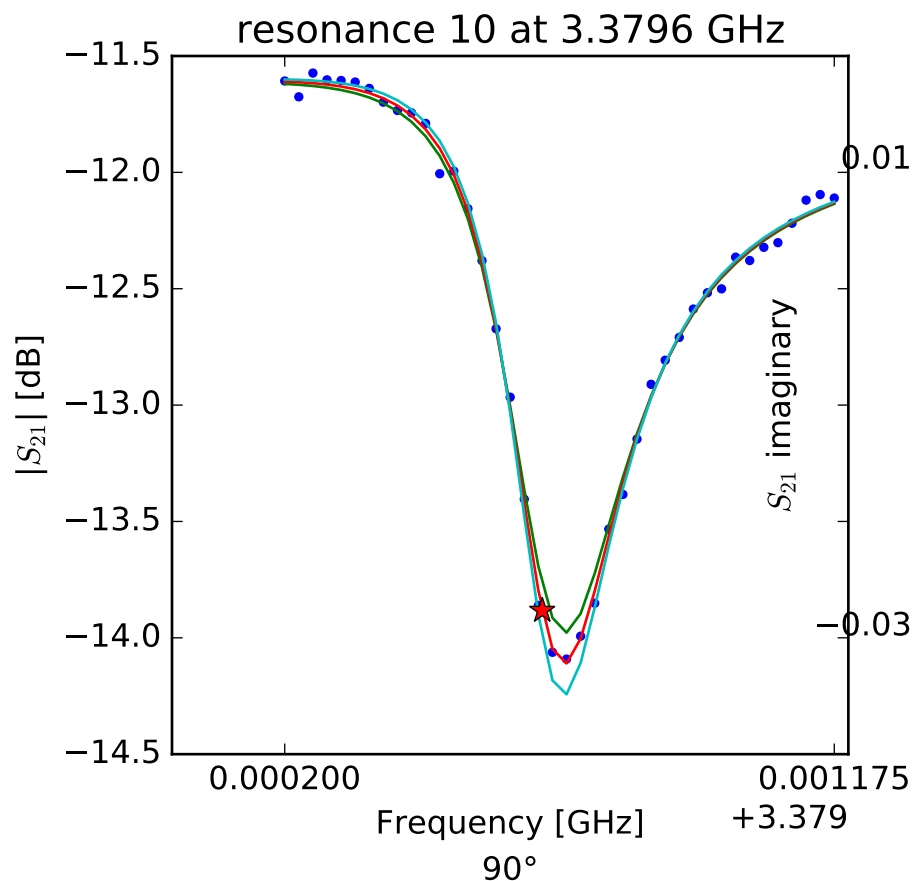
$$S_{21}(f) = ae^{-2\pi jf\tau} \left[1 - \frac{Q_r/Q_c e^{j\phi_0}}{1 + 2jQ_r \left(\frac{f-f_r}{f_r} \right)} \right]$$

$$\begin{aligned} f_r &= 3.35331242637 \\ Q_r &= 9209.73157071 \\ Q_c &= 14941.7509624 \\ a &= (-0.0618927874901 - 0.195532918328j) \\ \phi_0 &= 1.47411600175 \\ \tau &= 26.8332781026 \end{aligned}$$



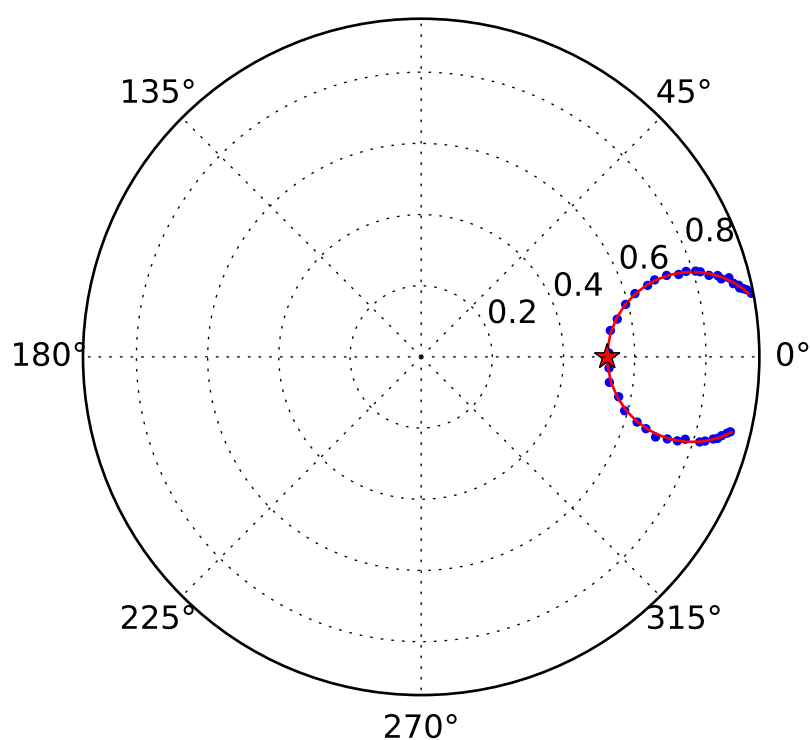
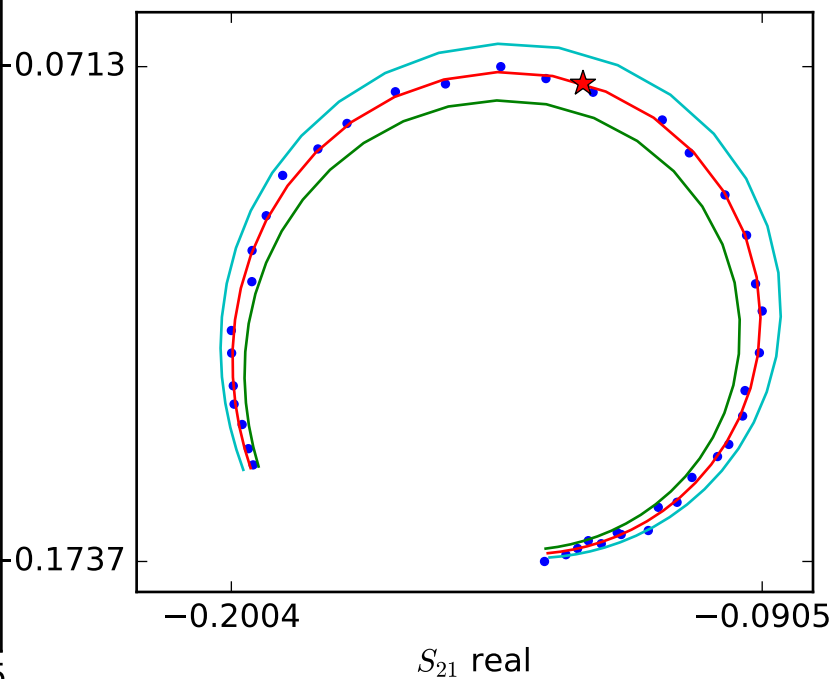
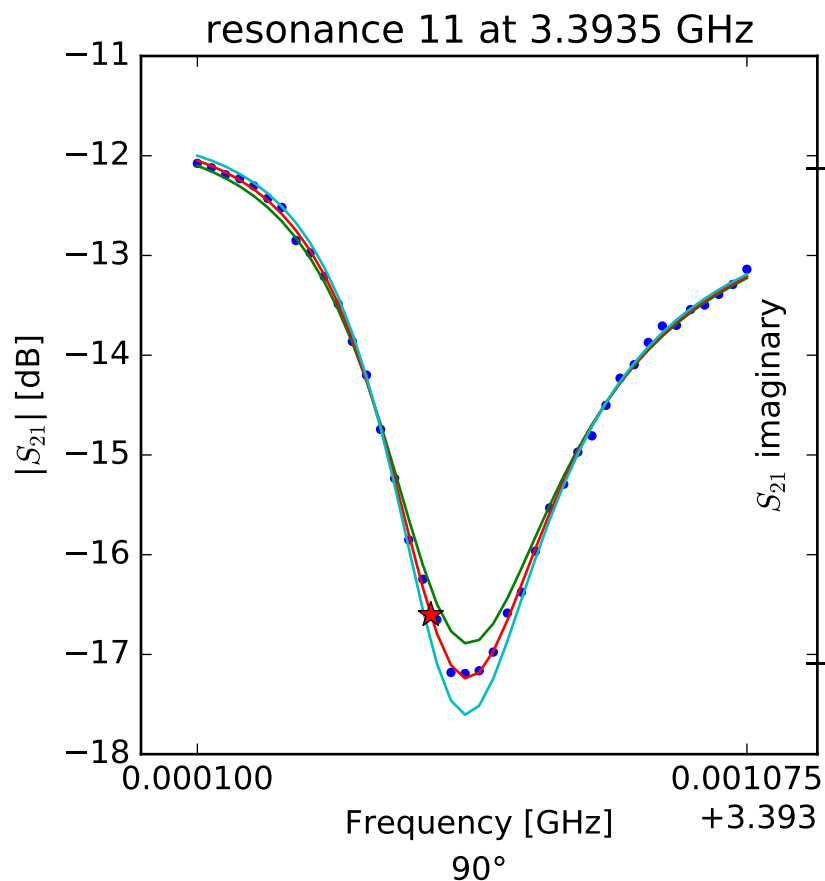
$$S_{21}(f) = ae^{-2\pi jf\tau} \left[1 - \frac{Q_r/Q_c e^{j\phi_0}}{1 + 2jQ_r \left(\frac{f-f_r}{f_r} \right)} \right]$$

$$\begin{aligned} f_r &= 3.36766822755 \\ Q_r &= 18246.6341595 \\ Q_c &= 158739.213336 \\ a &= (-0.109316866 - 0.207307282826j) \\ \phi_0 &= 0.643417450619 \\ \tau &= 26.5254116452 \end{aligned}$$



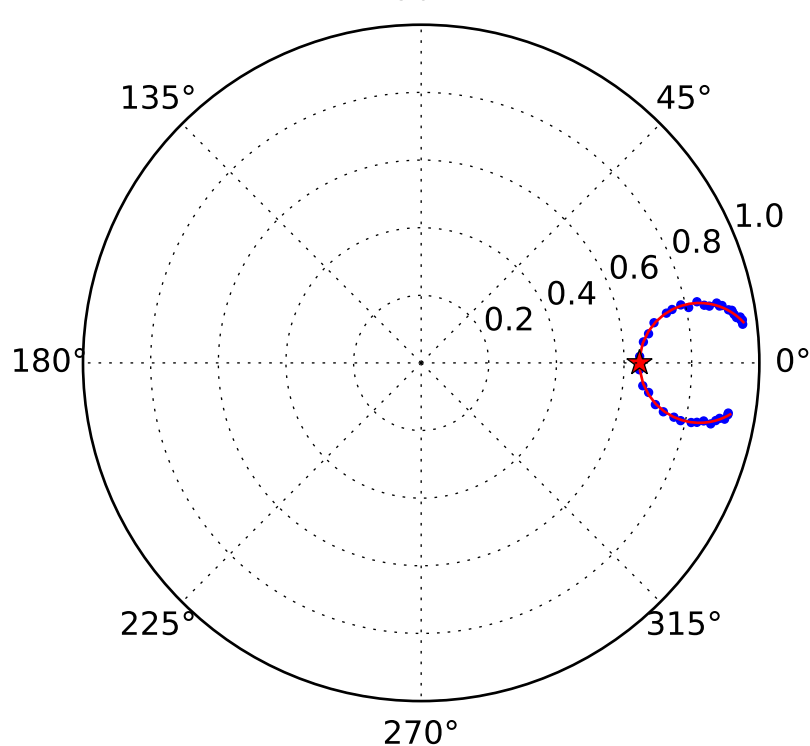
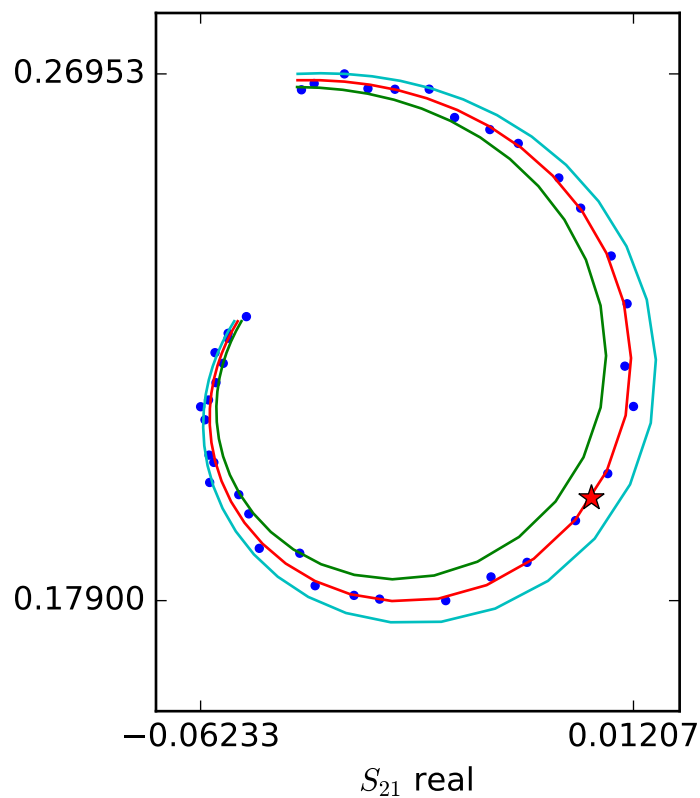
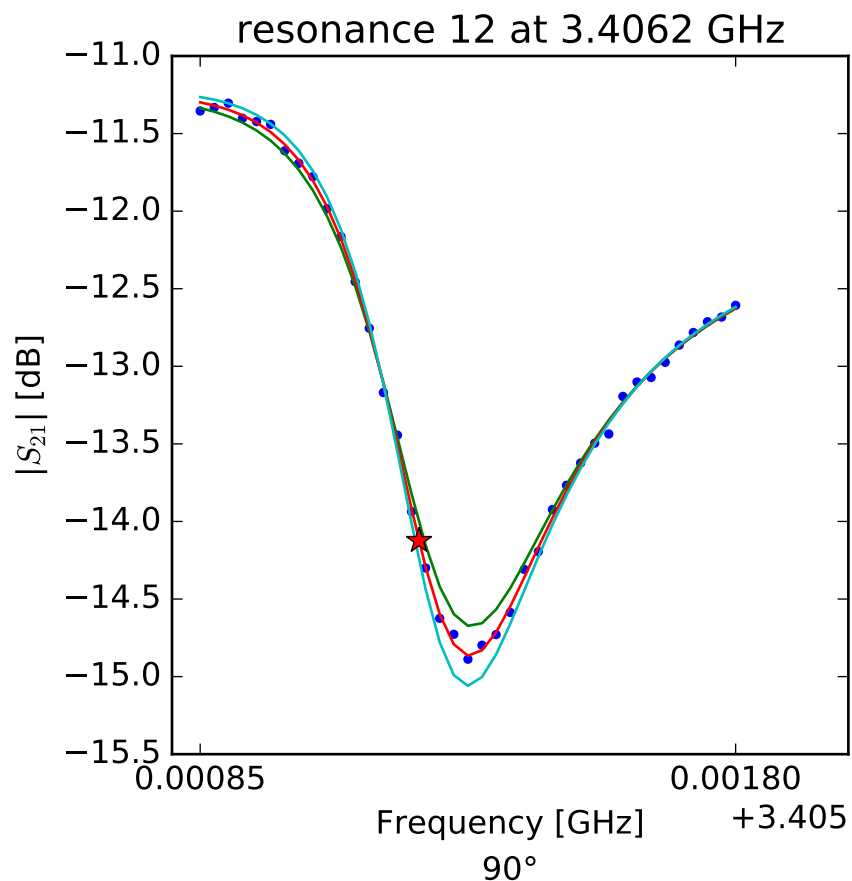
$$S_{21}(f) = ae^{-2\pi jf\tau} \left[1 - \frac{Q_r/Q_c e^{j\phi_0}}{1 + 2jQ_r \left(\frac{f-f_r}{f_r} \right)} \right]$$

$$\begin{aligned} f_r &= 3.37965691338 \\ Q_r &= 11960.0409755 \\ Q_c &= 47005.4646113 \\ a &= (-0.00606761392003 + 0.258665247294j) \\ \phi_0 &= 0.469637404246 \\ \tau &= 28.7743811455 \end{aligned}$$



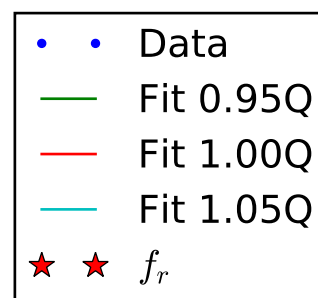
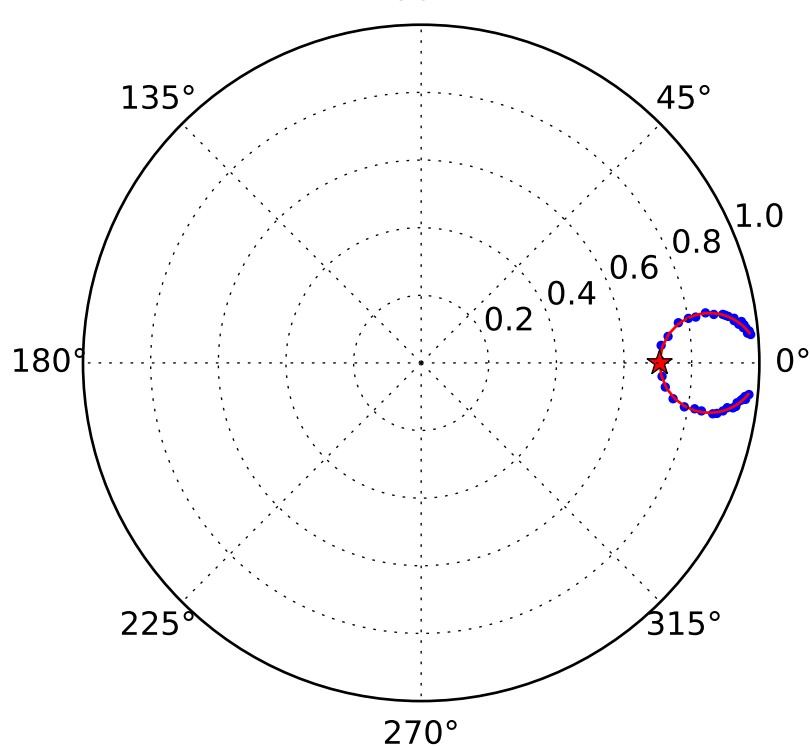
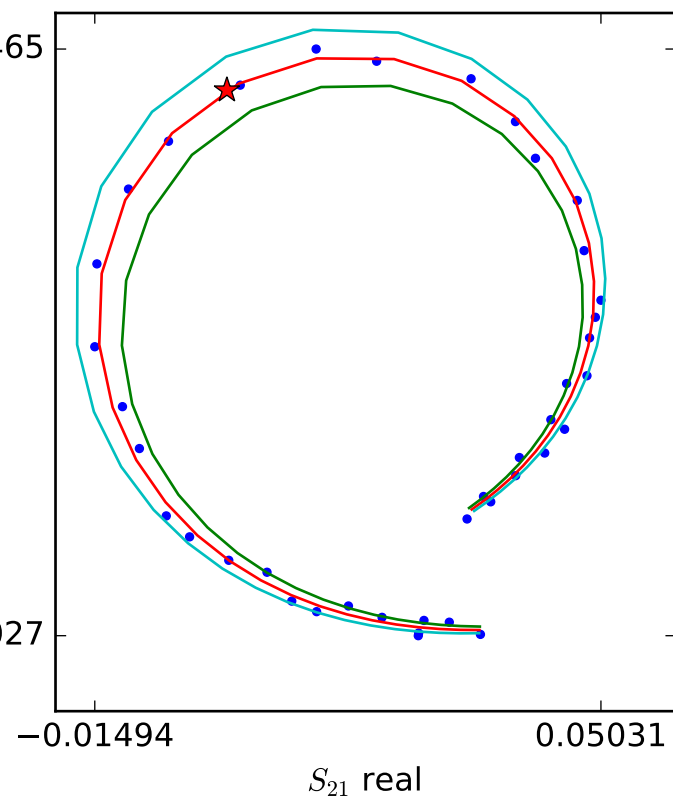
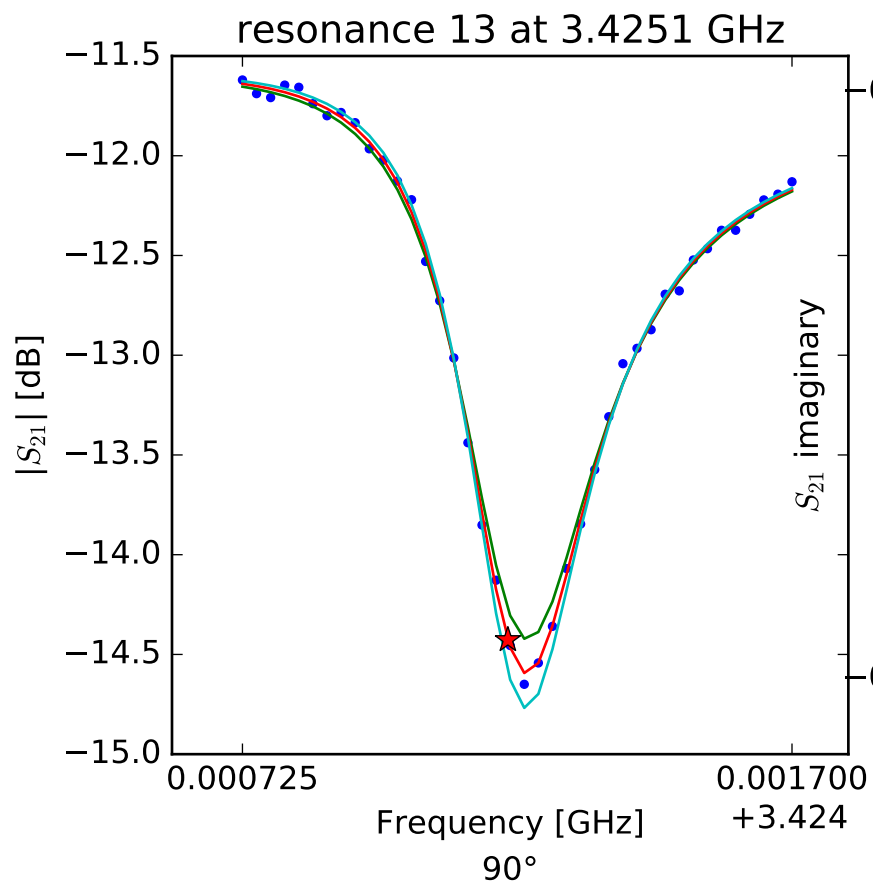
$$S_{21}(f) = ae^{-2\pi jf\tau} \left[1 - \frac{Q_r/Q_c e^{j\phi_0}}{1 + 2jQ_r \left(\frac{f-f_r}{f_r} \right)} \right]$$

$$\begin{aligned} f_r &= 3.39351407743 \\ Q_r &= 6754.47276358 \\ Q_c &= 14145.816523 \\ a &= (0.0934258394315 - 0.233629296034j) \\ \phi_0 &= 0.391831476791 \\ \tau &= 26.8677286601 \end{aligned}$$



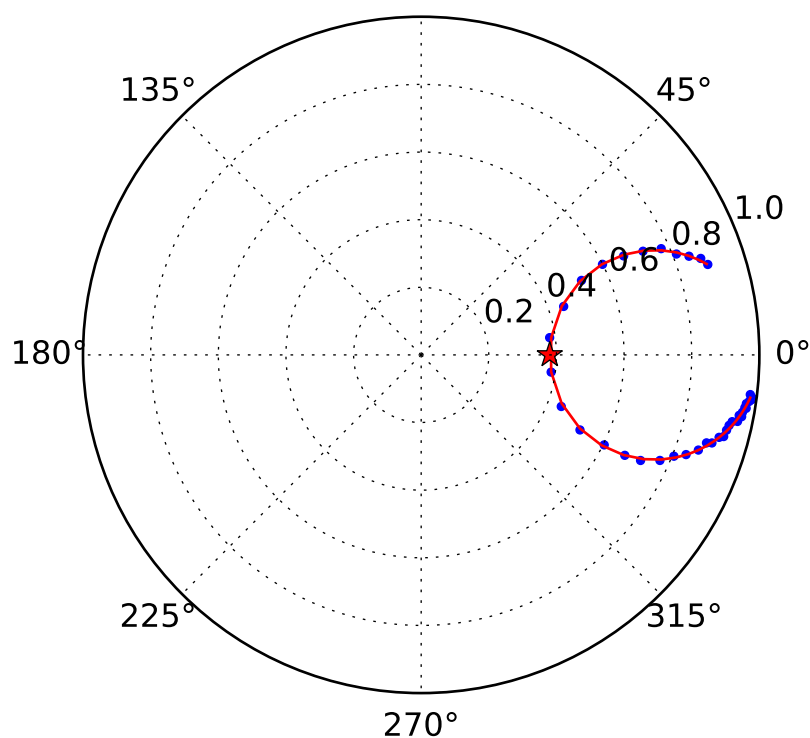
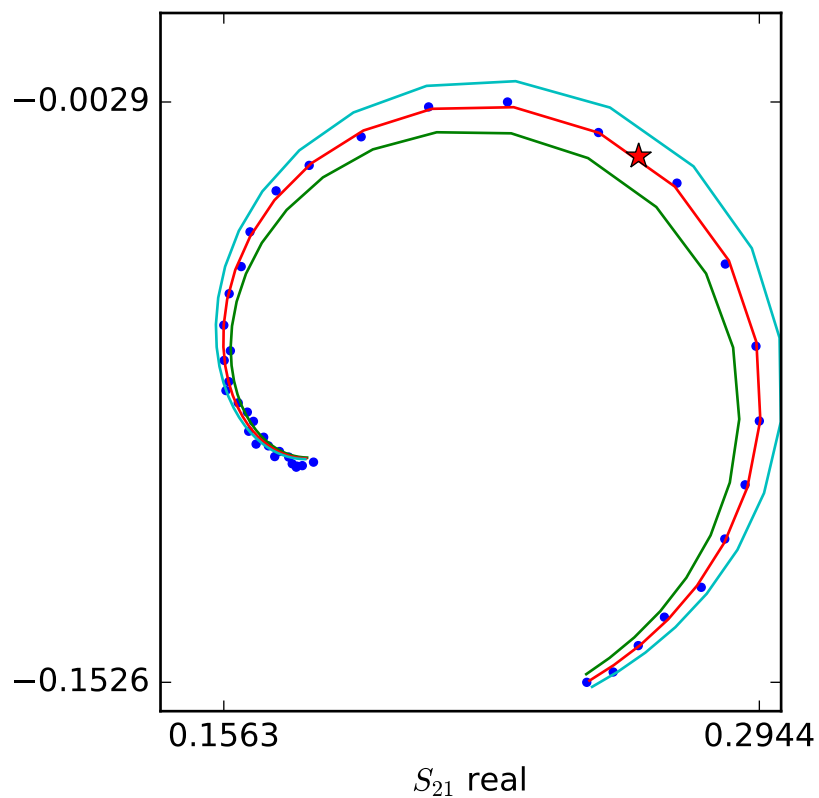
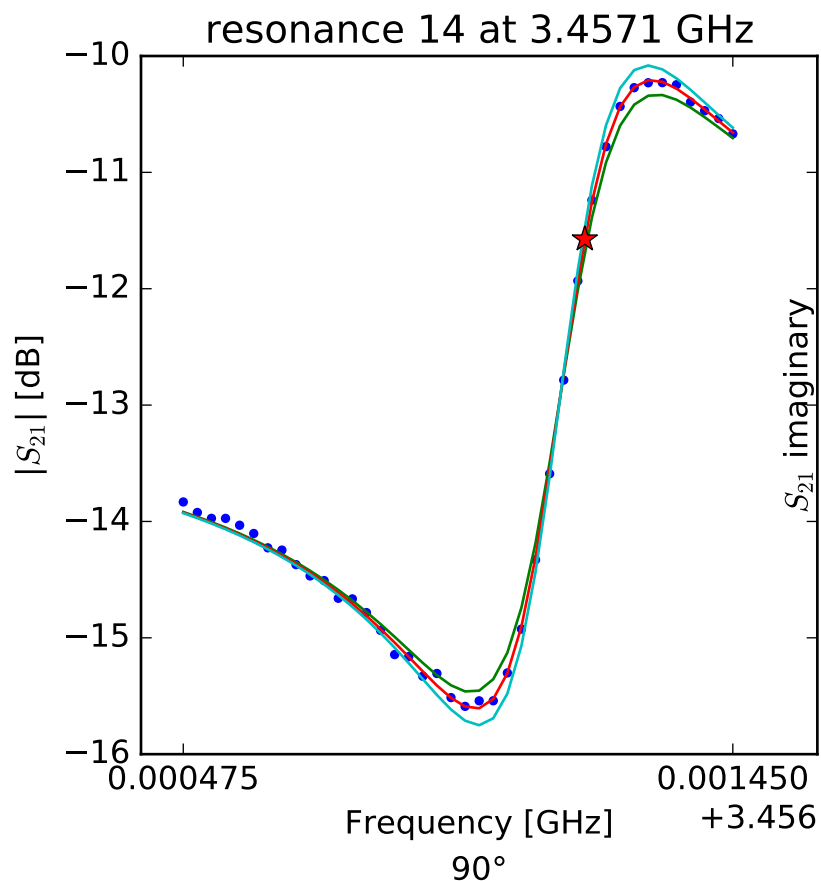
$$S_{21}(f) = ae^{-2\pi jf\tau} \left[1 - \frac{Q_r/Q_c e^{j\phi_0}}{1 + 2jQ_r \left(\frac{f-f_r}{f_r} \right)} \right]$$

$$\begin{aligned} f_r &= 3.40623823135 \\ Q_r &= 7732.31080742 \\ Q_c &= 21810.3730731 \\ a &= (0.240889154429 + 0.103526978756j) \\ \phi_0 &= 0.653714009989 \\ \tau &= 28.41026483 \end{aligned}$$



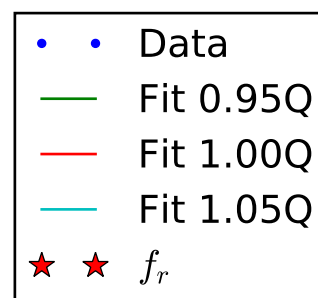
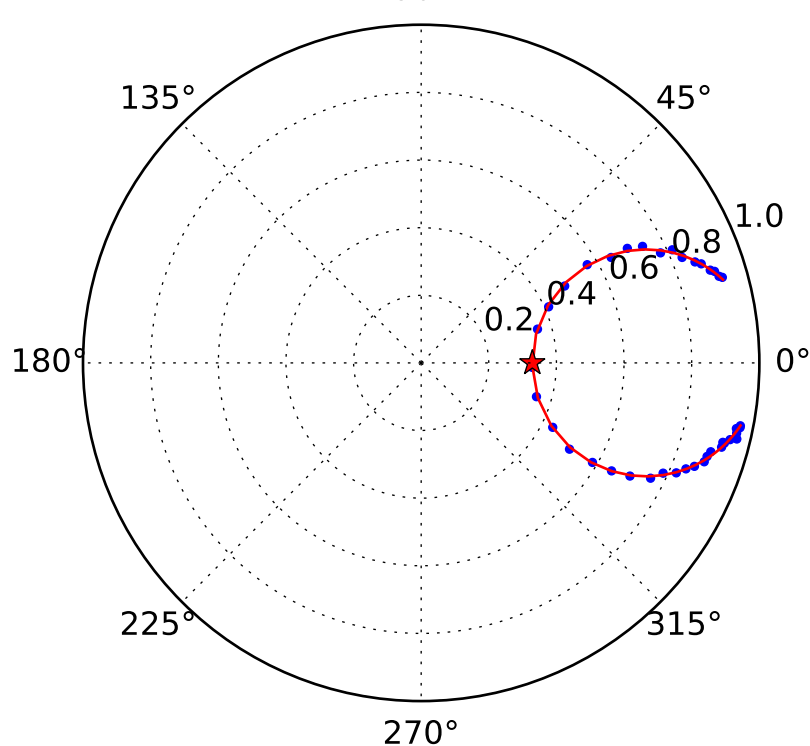
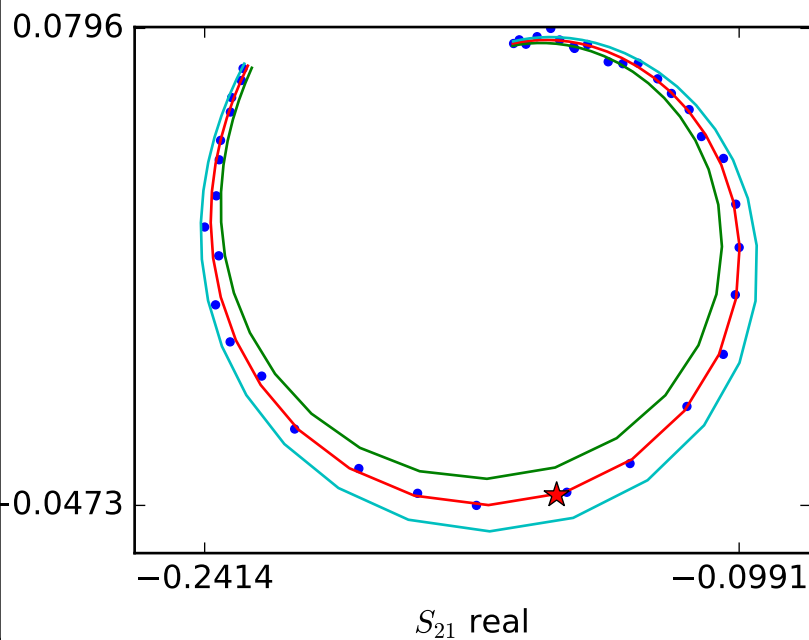
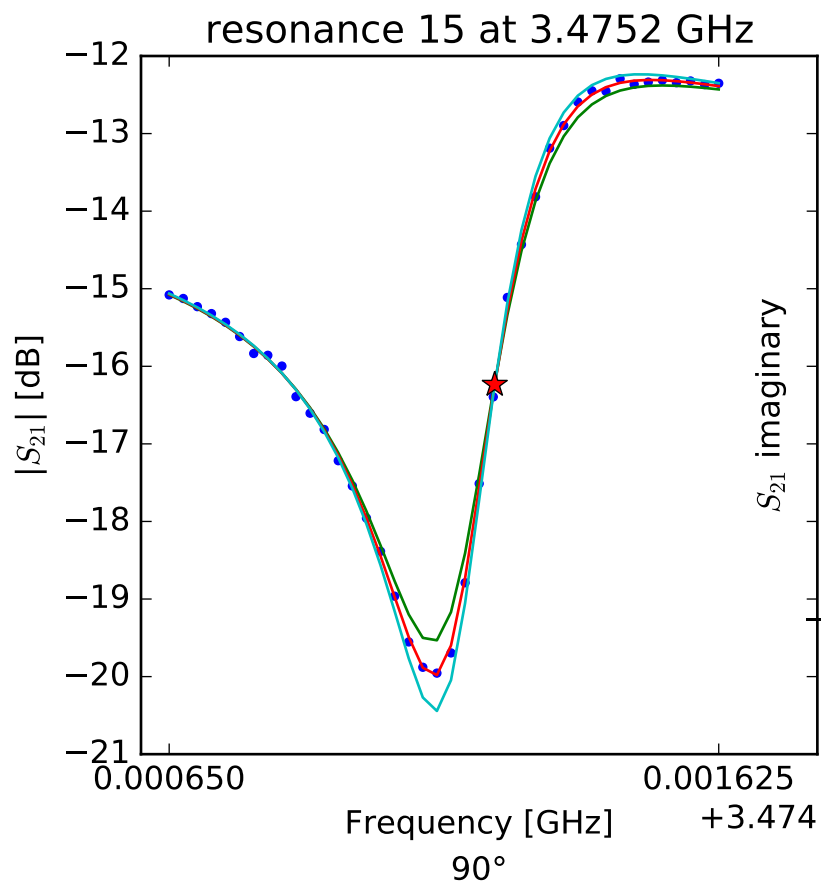
$$S_{21}(f) = ae^{-2\pi jf\tau} \left[1 - \frac{Q_r/Q_c e^{j\phi_0}}{1 + 2jQ_r \left(\frac{f-f_r}{f_r} \right)} \right]$$

$$\begin{aligned} f_r &= 3.42519590103 \\ Q_r &= 10266.9088211 \\ Q_c &= 34809.4973852 \\ a &= (-0.161887442959 + 0.20404109035j) \\ \phi_0 &= 0.345107470772 \\ \tau &= 27.9058930085 \end{aligned}$$



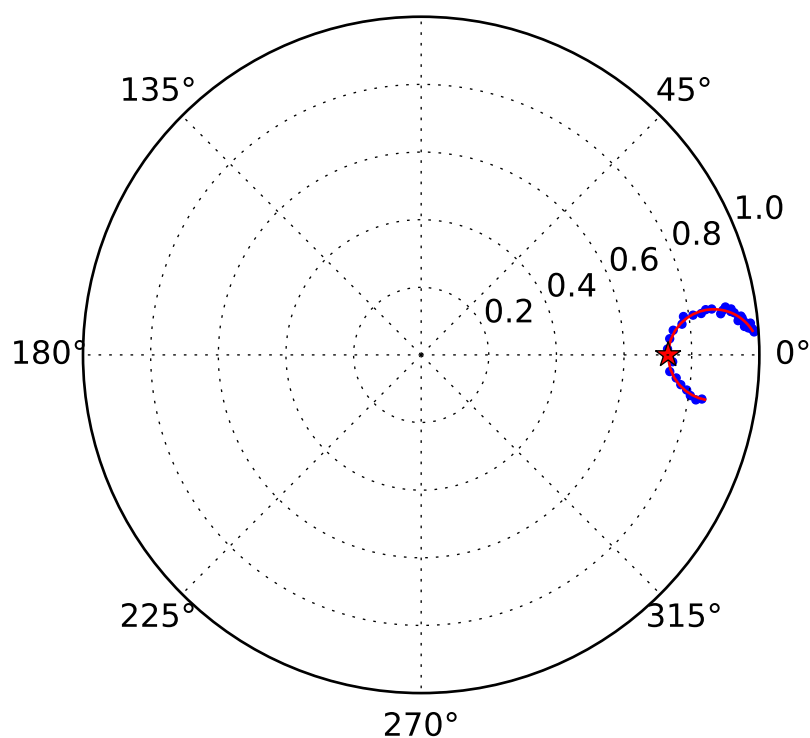
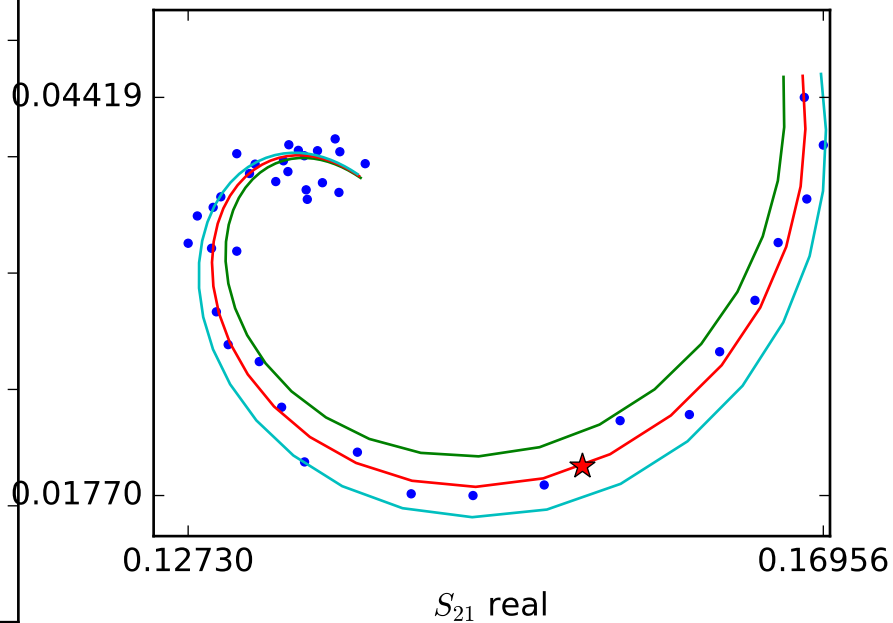
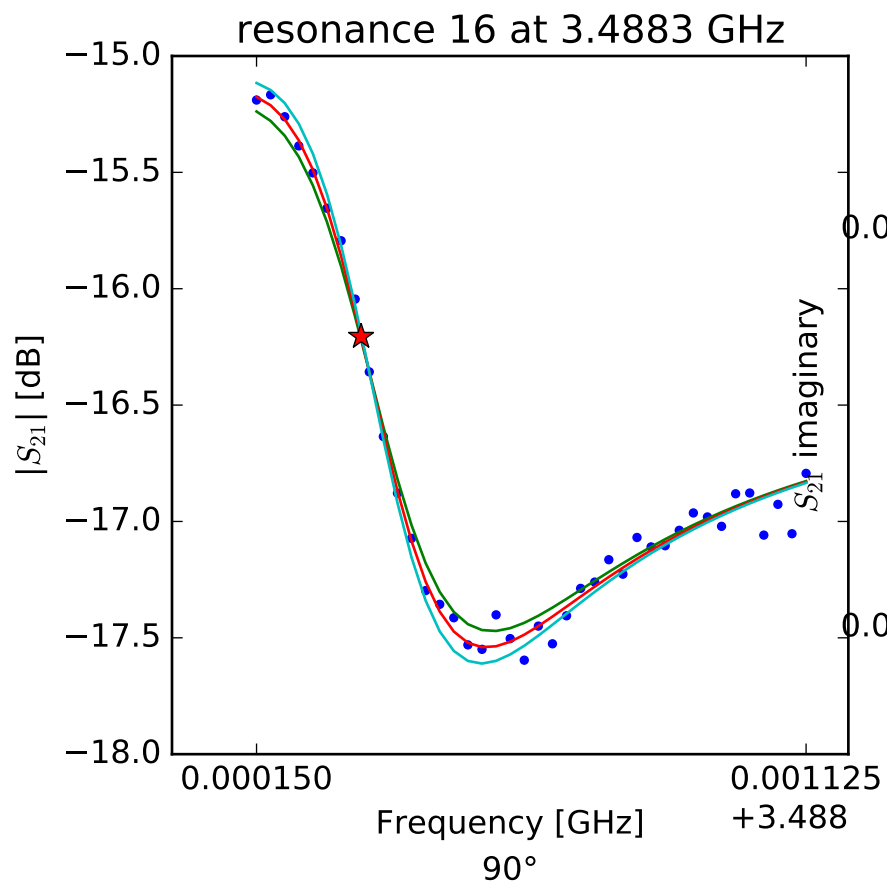
$$S_{21}(f) = ae^{-2\pi jf\tau} \left[1 - \frac{Q_r/Q_c e^{j\phi_0}}{1 + 2jQ_r \left(\frac{f-f_r}{f_r} \right)} \right]$$

$$\begin{aligned} f_r &= 3.45718735894 \\ Q_r &= 11364.6518551 \\ Q_c &= 18335.086935 \\ a &= (-0.132493353828 + 0.188947278791j) \\ \phi_0 &= -1.50841052542 \\ \tau &= 27.6087303871 \end{aligned}$$



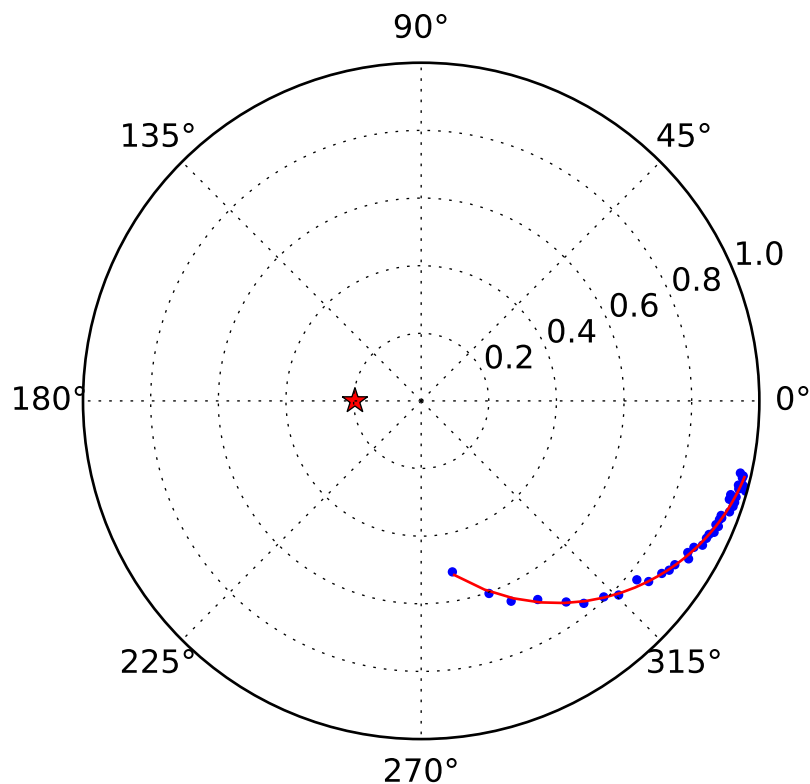
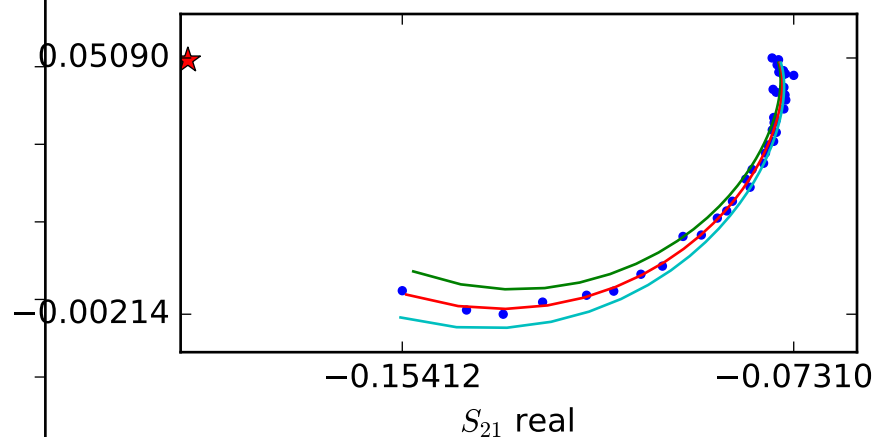
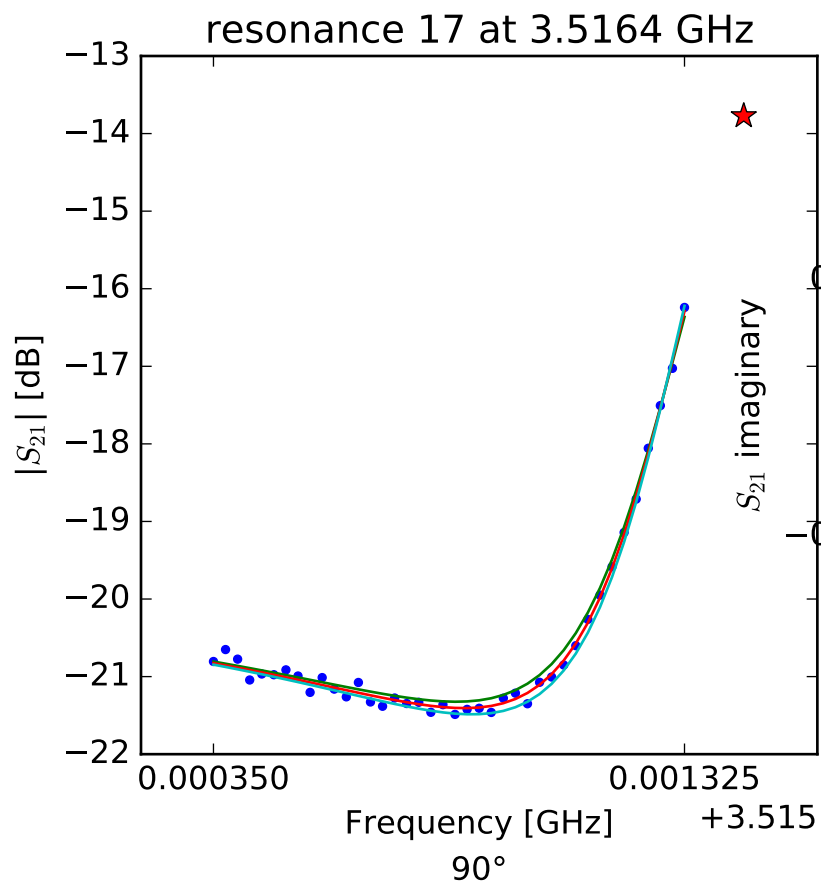
$$S_{21}(f) = ae^{-2\pi jf\tau} \left[1 - \frac{Q_r/Q_c e^{j\phi_0}}{1 + 2jQ_r \left(\frac{f-f_r}{f_r} \right)} \right]$$

$$\begin{aligned} f_r &= 3.4752275489 \\ Q_r &= 10004.2661726 \\ Q_c &= 14902.2350364 \\ a &= (0.130774224422 + 0.166974121382j) \\ \phi_0 &= -0.814202387089 \\ \tau &= 28.6930147723 \end{aligned}$$



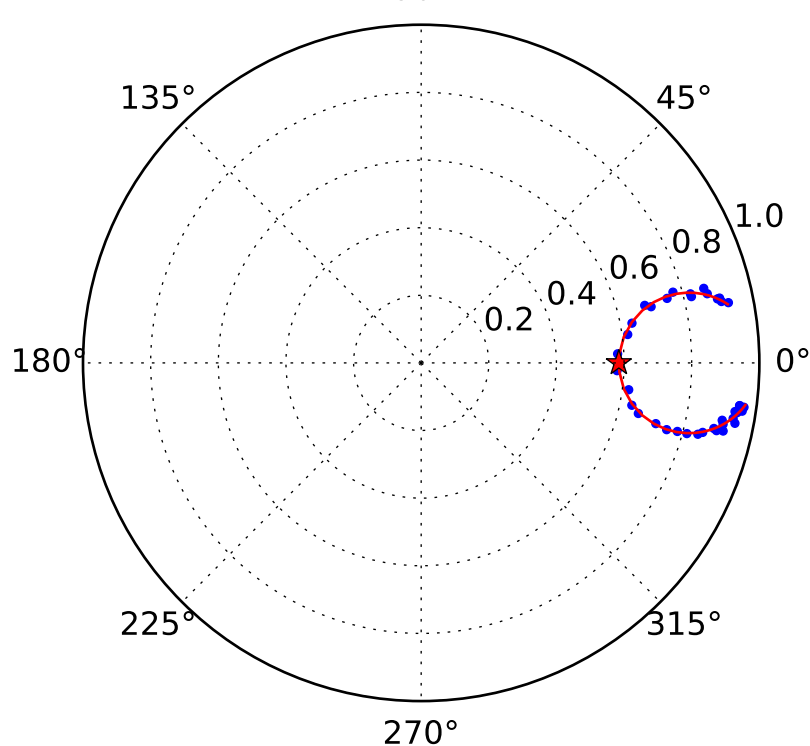
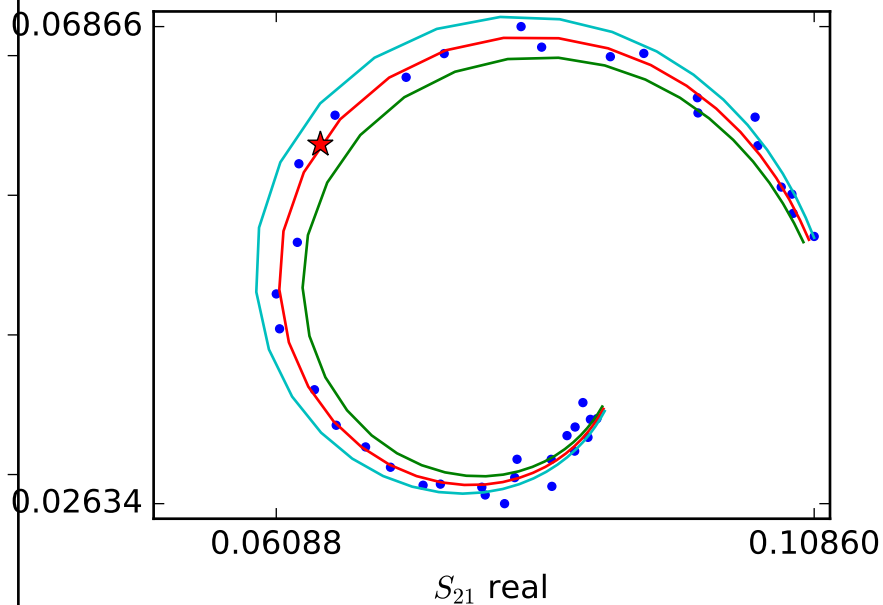
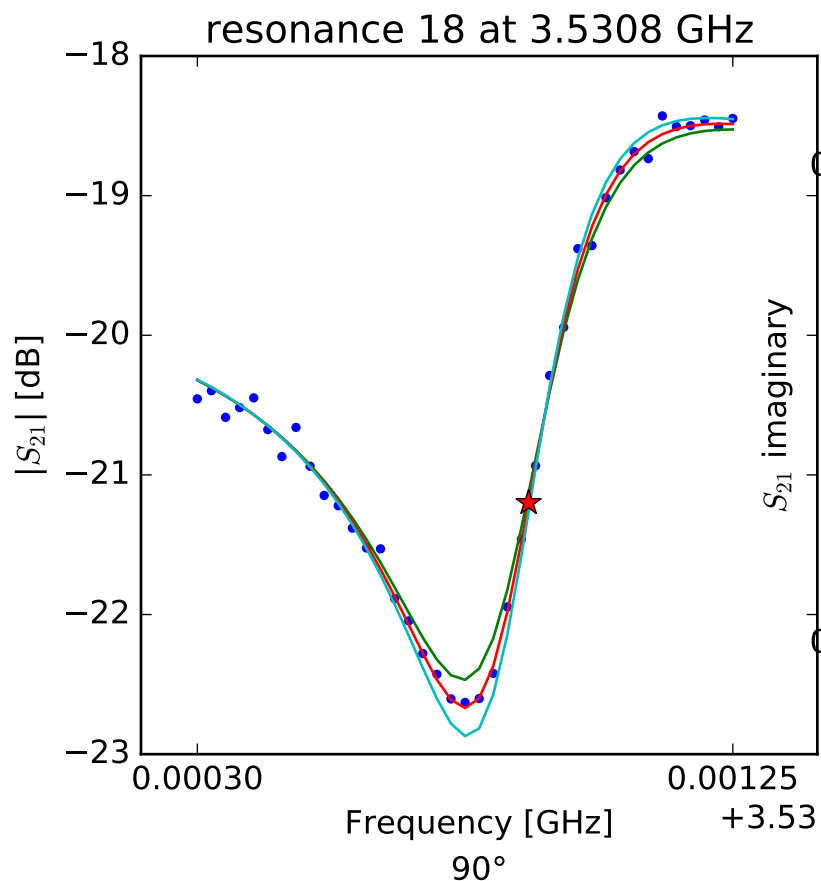
$$S_{21}(f) = ae^{-2\pi jf\tau} \left[1 - \frac{Q_r/Q_c e^{j\phi_0}}{1 + 2jQ_r \left(\frac{f-f_r}{f_r} \right)} \right]$$

$$\begin{aligned} f_r &= 3.48833550658 \\ Q_r &= 7730.94579213 \\ Q_c &= 28653.8193697 \\ a &= (-0.153574400152 - 0.0241231755573j) \\ \phi_0 &= 1.41926688144 \\ \tau &= 23.0658371957 \end{aligned}$$



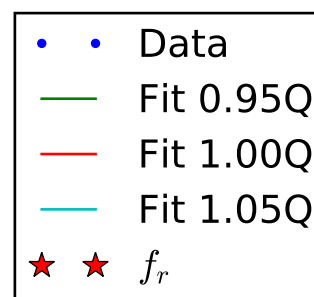
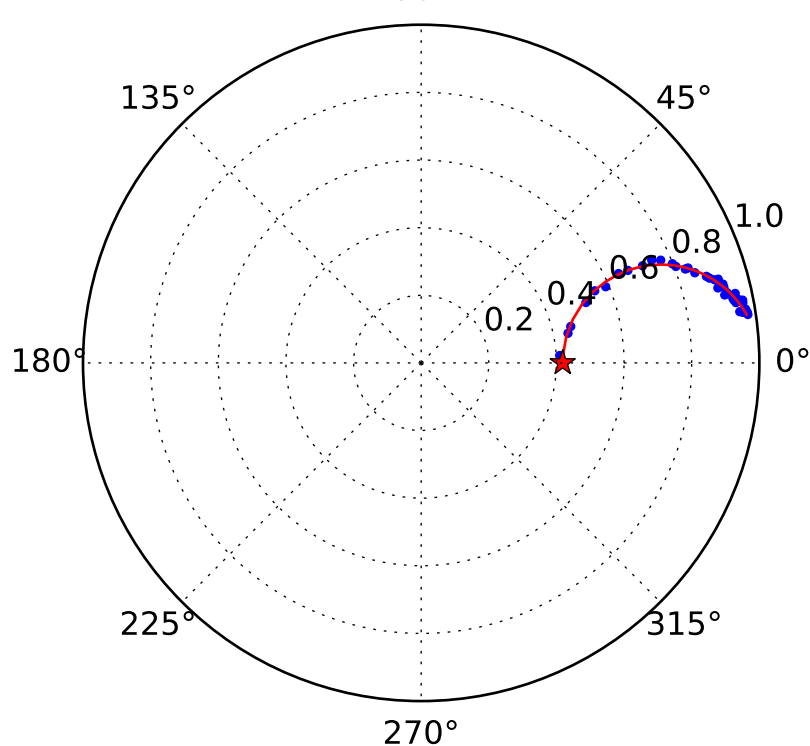
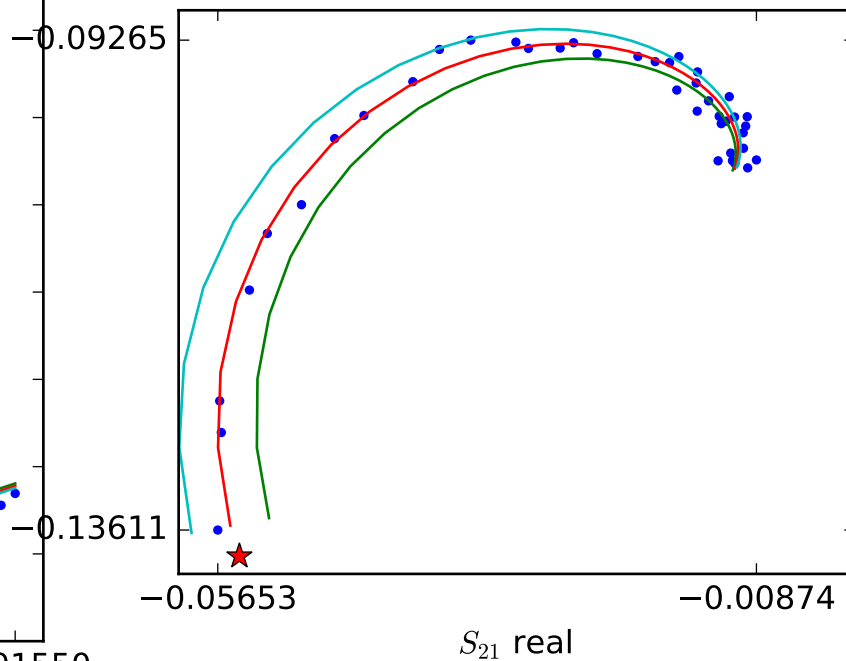
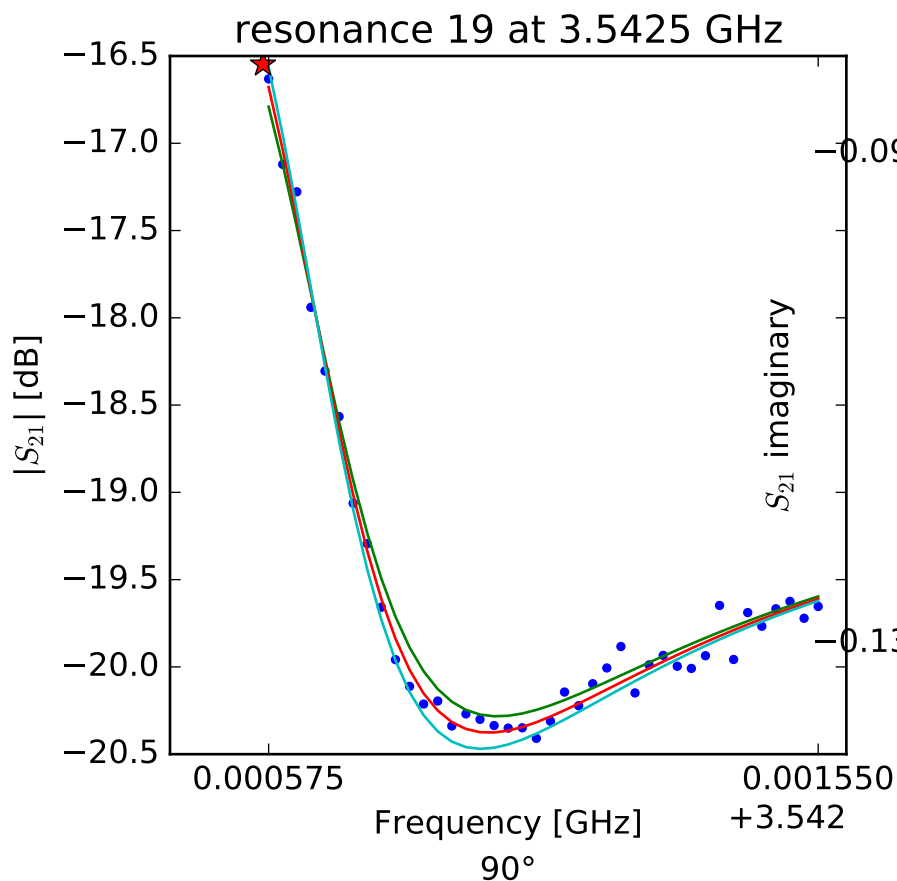
$$S_{21}(f) = ae^{-2\pi jf\tau} \left[1 - \frac{Q_r/Q_c e^{j\phi_0}}{1 + 2jQ_r \left(\frac{f-f_r}{f_r} \right)} \right]$$

$f_r = 3.51644760629$
 $Q_r = 8180.08537967$
 $Q_c = 6840.3702449$
 $a = (-0.0252083653154 - 0.106728333851j)$
 $\phi_0 = -2.02898416646$
 $\tau = 16.0247086338$



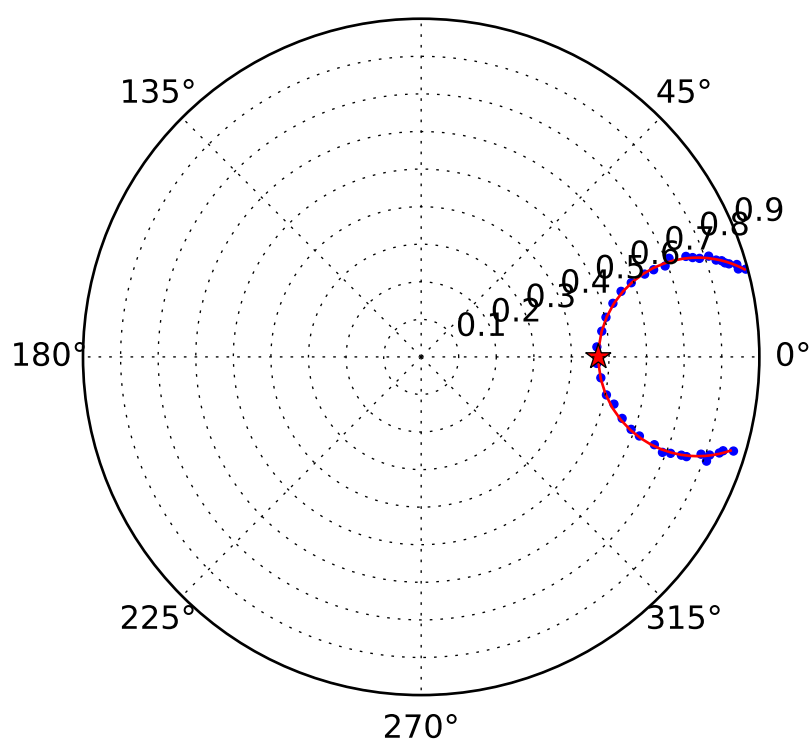
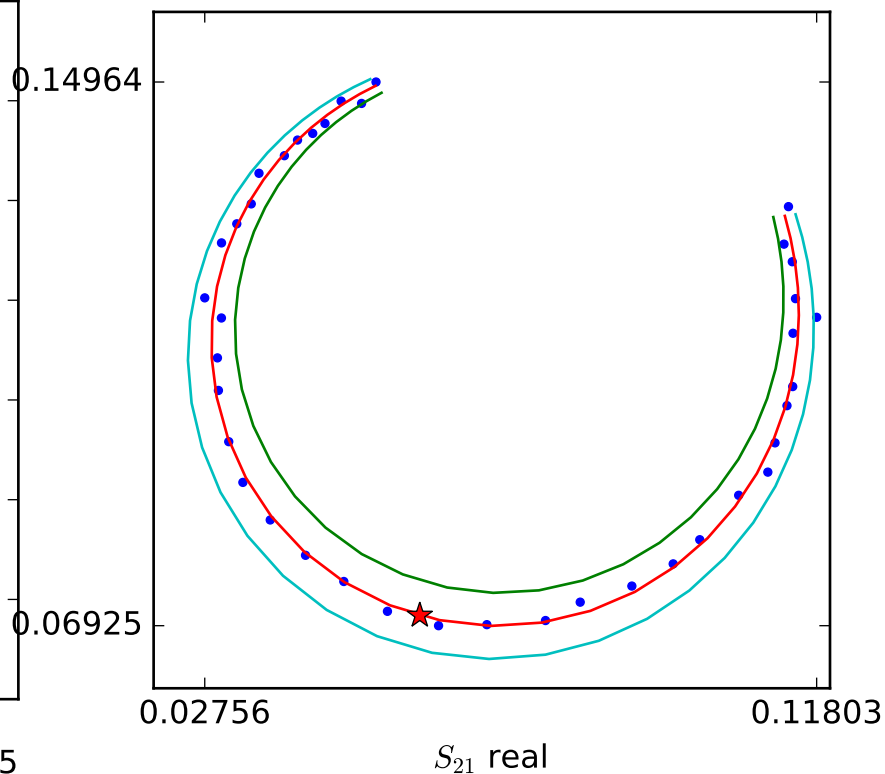
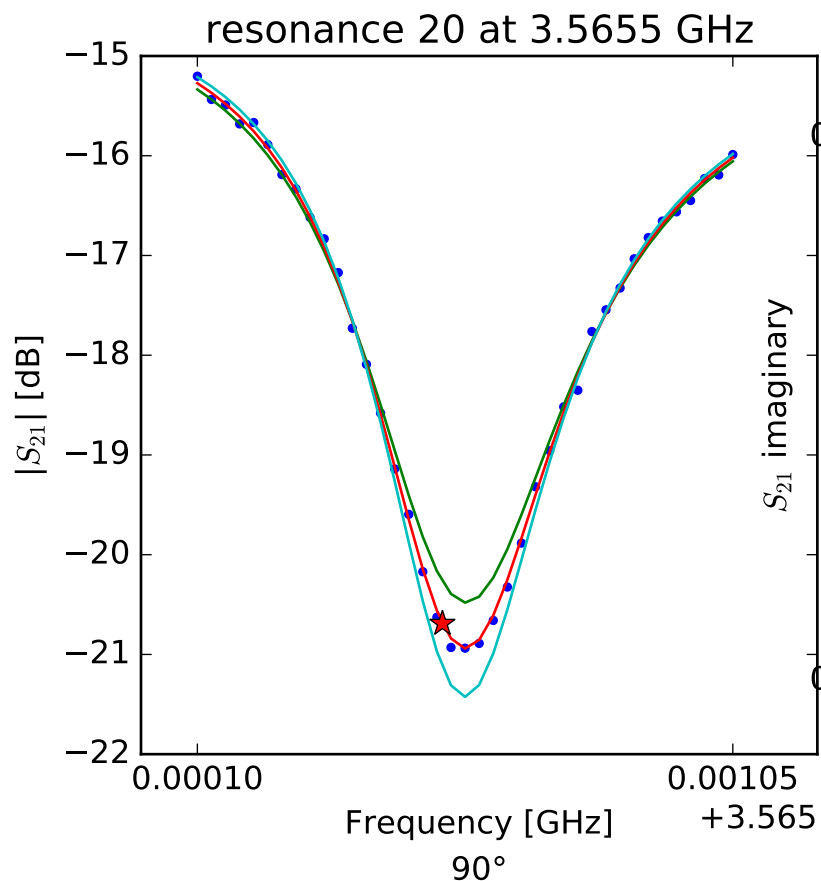
$$S_{21}(f) = ae^{-2\pi jf\tau} \left[1 - \frac{Q_r/Q_c e^{j\phi_0}}{1 + 2jQ_r \left(\frac{f-f_r}{f_r} \right)} \right]$$

$$\begin{aligned} f_r &= 3.53088767487 \\ Q_r &= 9040.49735186 \\ Q_c &= 21756.143587 \\ a &= (0.0950816256745 - 0.0543581466045j) \\ \phi_0 &= -0.863206837871 \\ \tau &= 27.4338479142 \end{aligned}$$



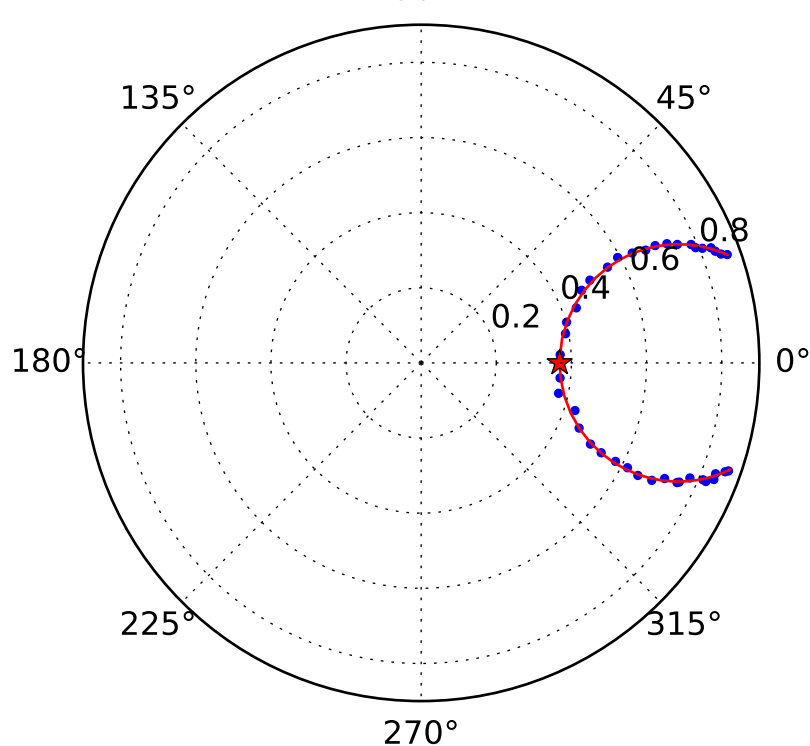
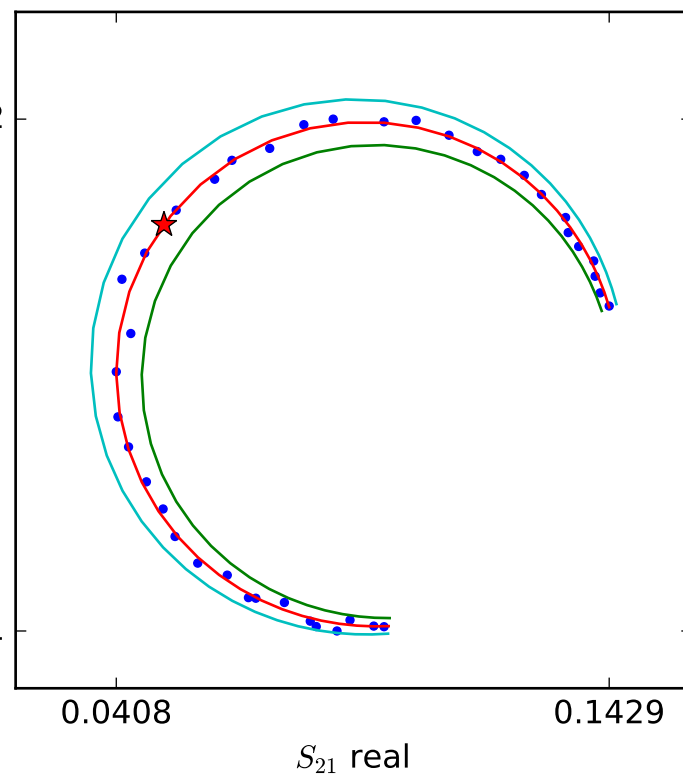
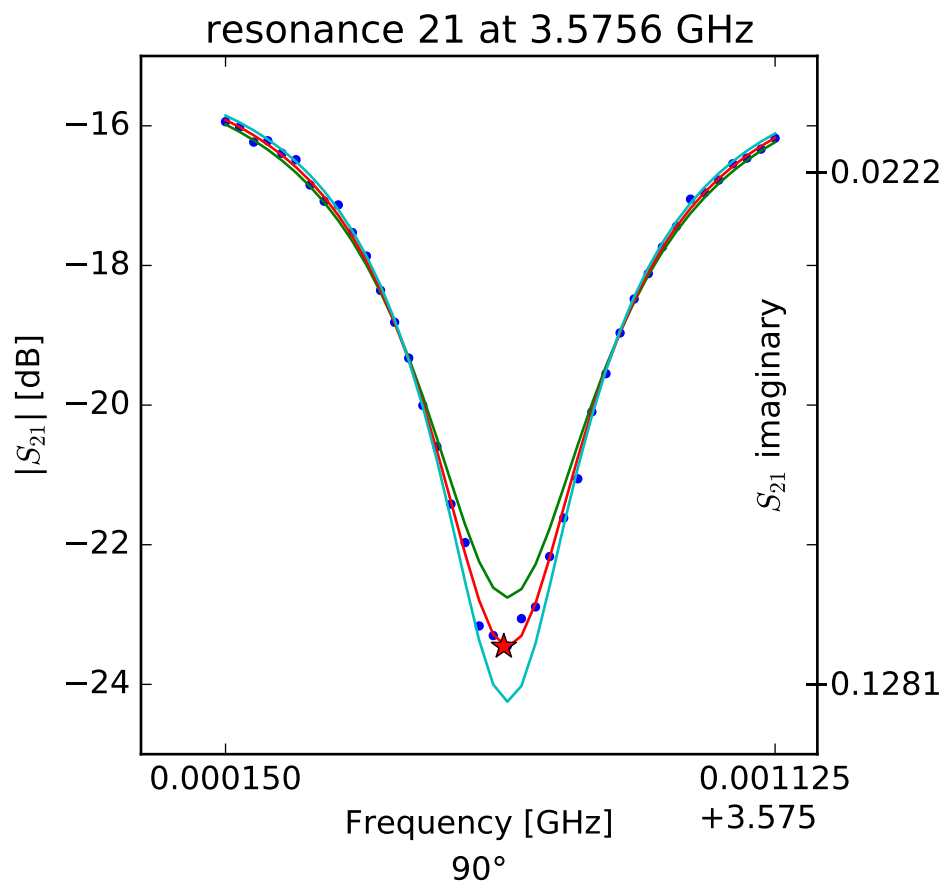
$$S_{21}(f) = ae^{-2\pi jf\tau} \left[1 - \frac{Q_r/Q_c e^{j\phi_0}}{1 + 2jQ_r \left(\frac{f-f_r}{f_r} \right)} \right]$$

$$\begin{aligned} f_r &= 3.54256503479 \\ Q_r &= 6870.74505737 \\ Q_c &= 11814.4682032 \\ a &= (0.10642618081 - 0.0567199730323j) \\ \phi_0 &= 1.73001391613 \\ \tau &= 22.9084961536 \end{aligned}$$



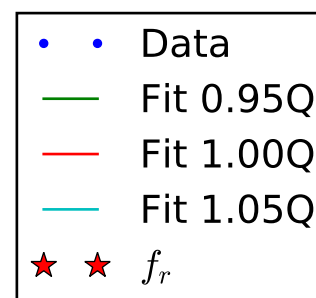
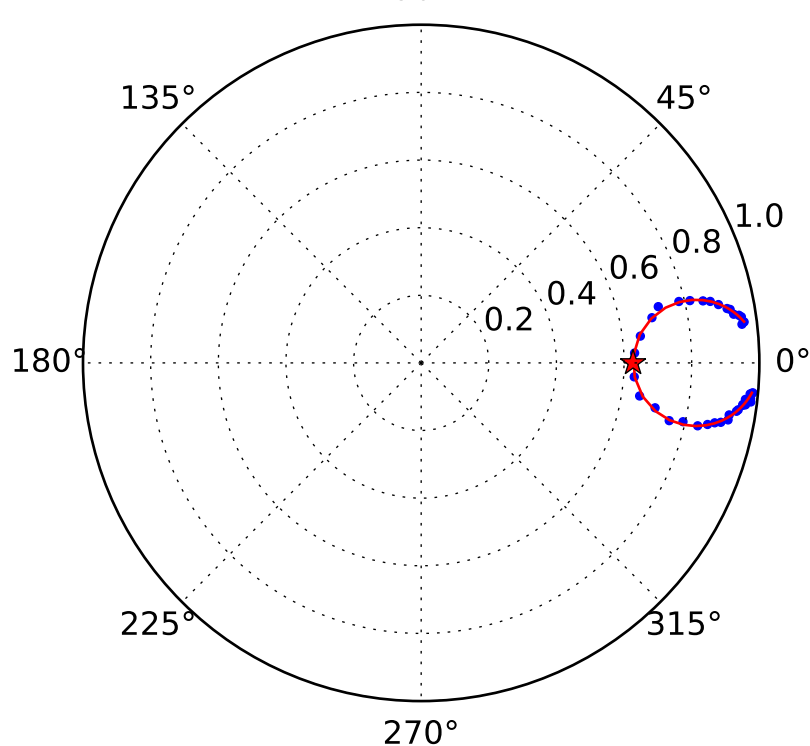
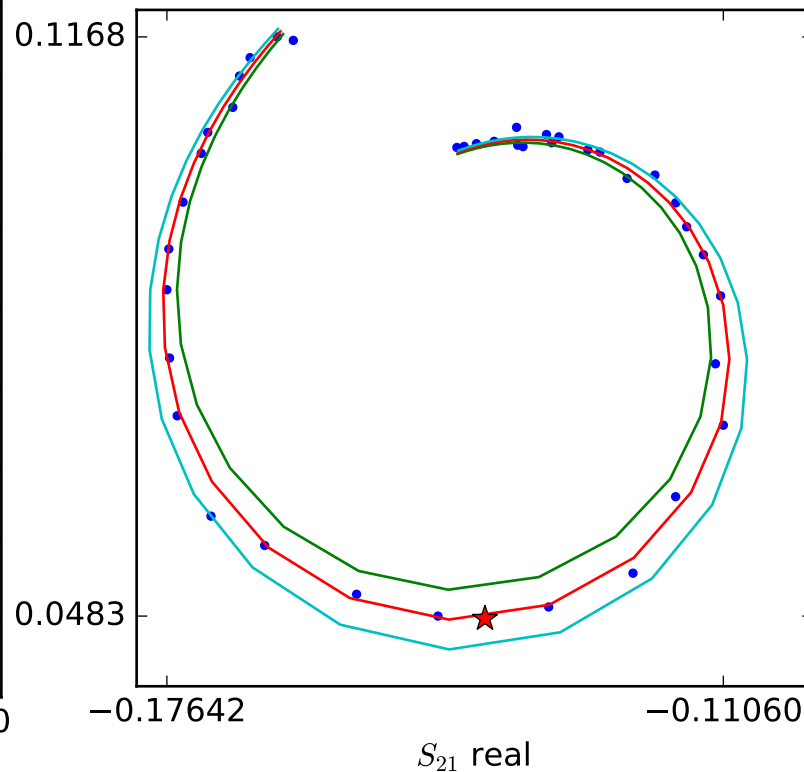
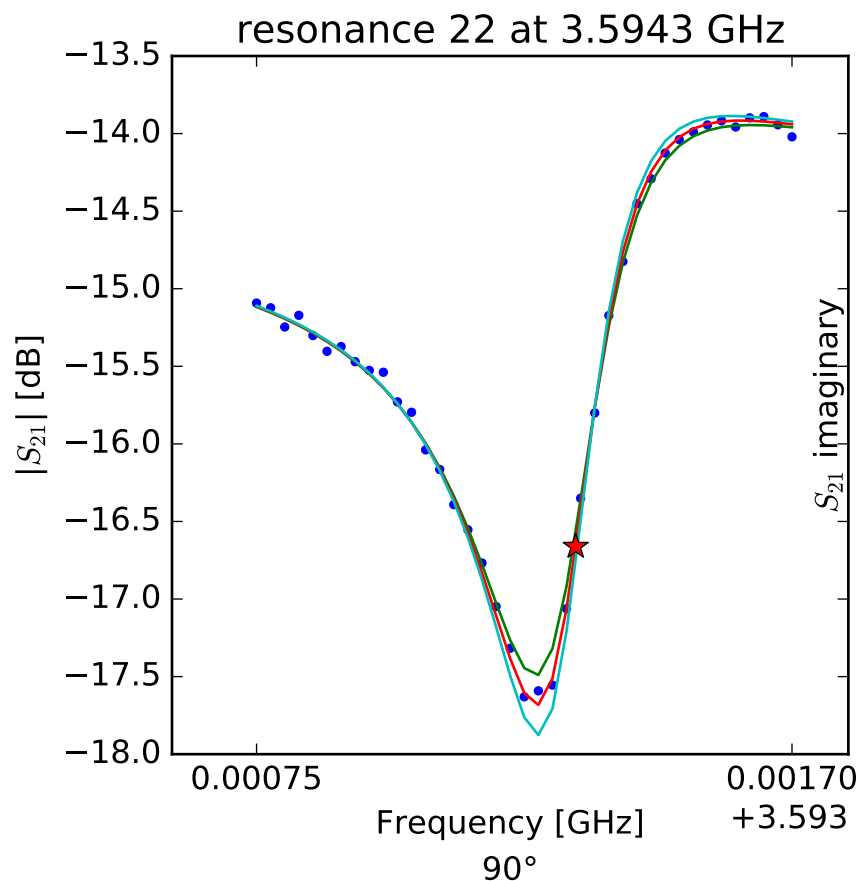
$$S_{21}(f) = ae^{-2\pi jf\tau} \left[1 - \frac{Q_r/Q_c e^{j\phi_0}}{1 + 2jQ_r \left(\frac{f-f_r}{f_r} \right)} \right]$$

$$\begin{aligned} f_r &= 3.56553480946 \\ Q_r &= 5787.21239236 \\ Q_c &= 10948.4219192 \\ a &= (-0.0936400883368 + 0.162621251336j) \\ \phi_0 &= 0.195030426836 \\ \tau &= 28.932782089 \end{aligned}$$



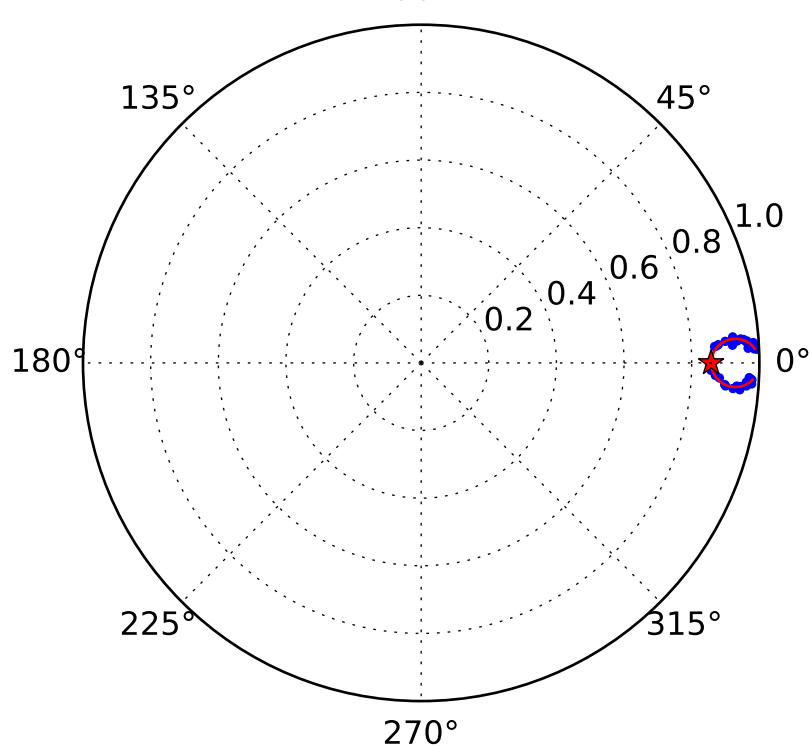
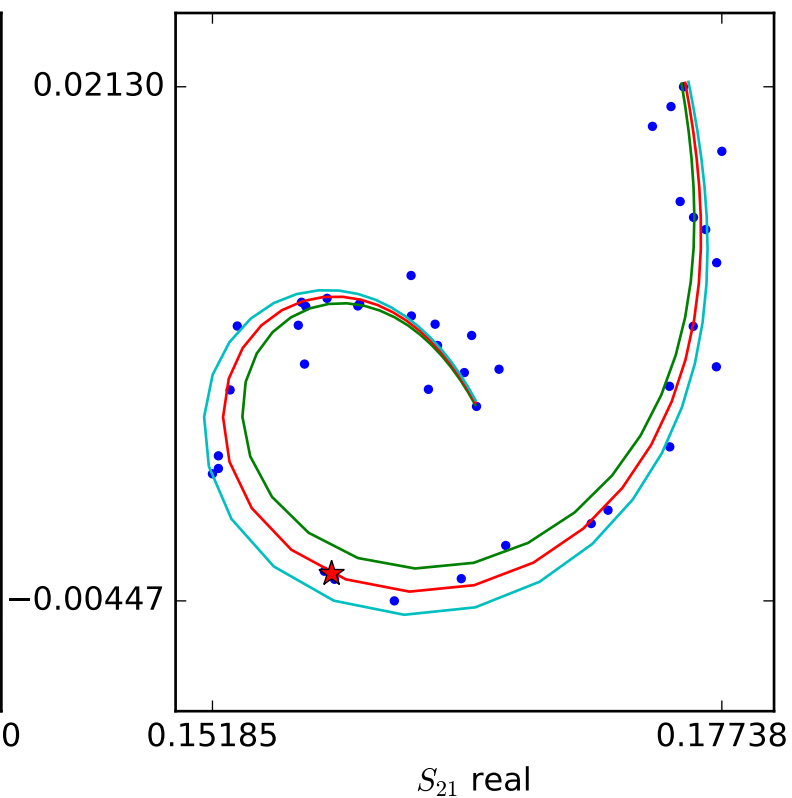
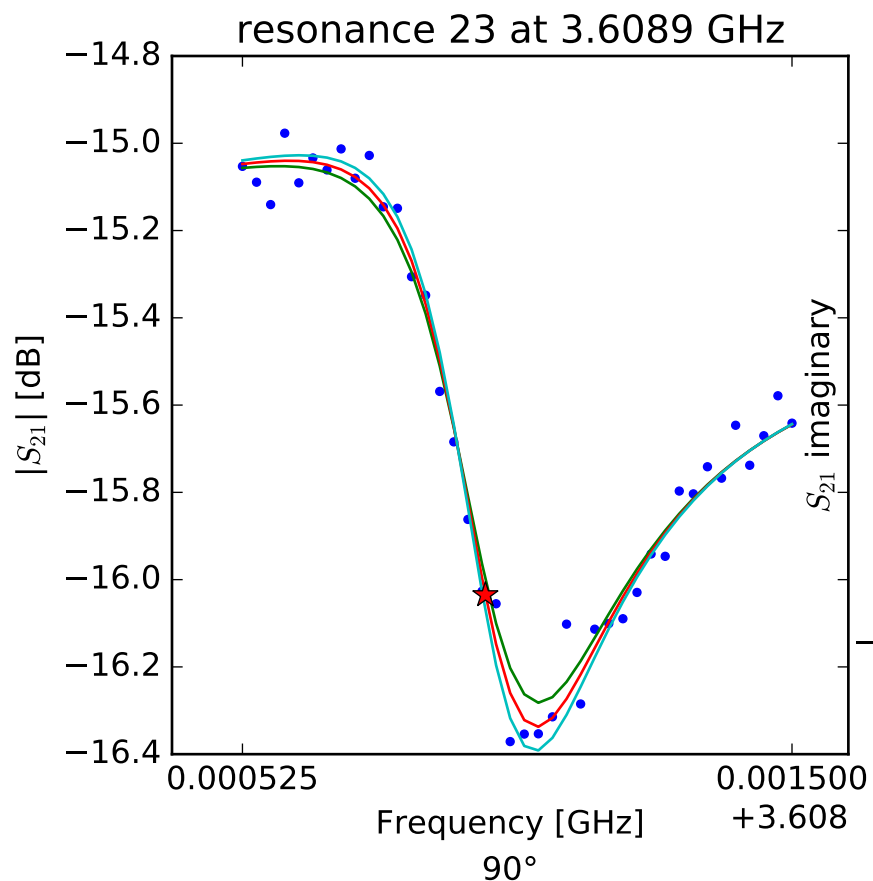
$$S_{21}(f) = ae^{-2\pi jf\tau} \left[1 - \frac{Q_r/Q_c e^{j\phi_0}}{1 + 2jQ_r \left(\frac{f-f_r}{f_r} \right)} \right]$$

$$\begin{aligned} f_r &= 3.5756436733 \\ Q_r &= 5778.92643323 \\ Q_c &= 9149.85834948 \\ a &= (-0.0412603371708 - 0.177168708885j) \\ \phi_0 &= 0.0309270742637 \\ \tau &= 25.6790112714 \end{aligned}$$



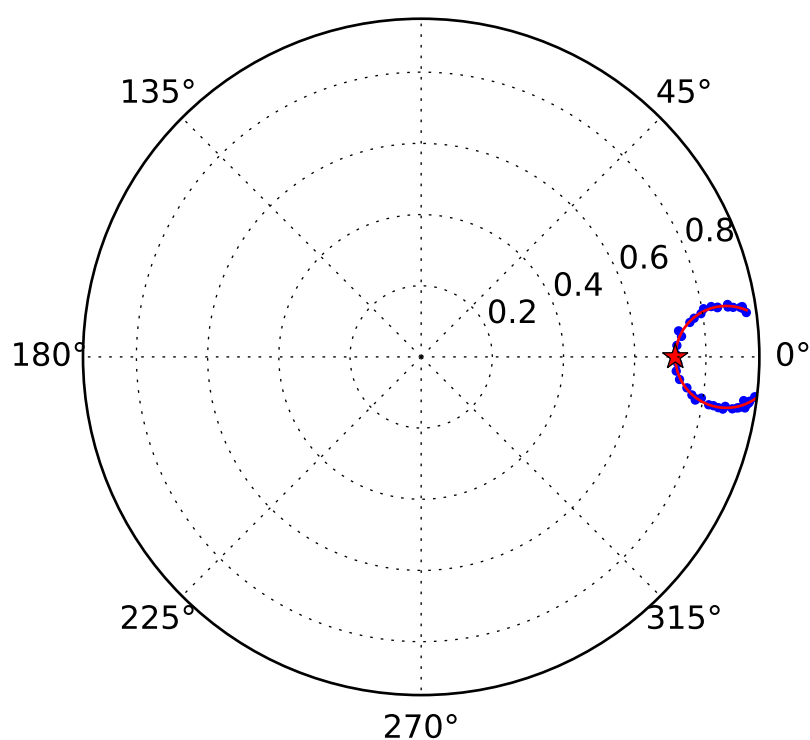
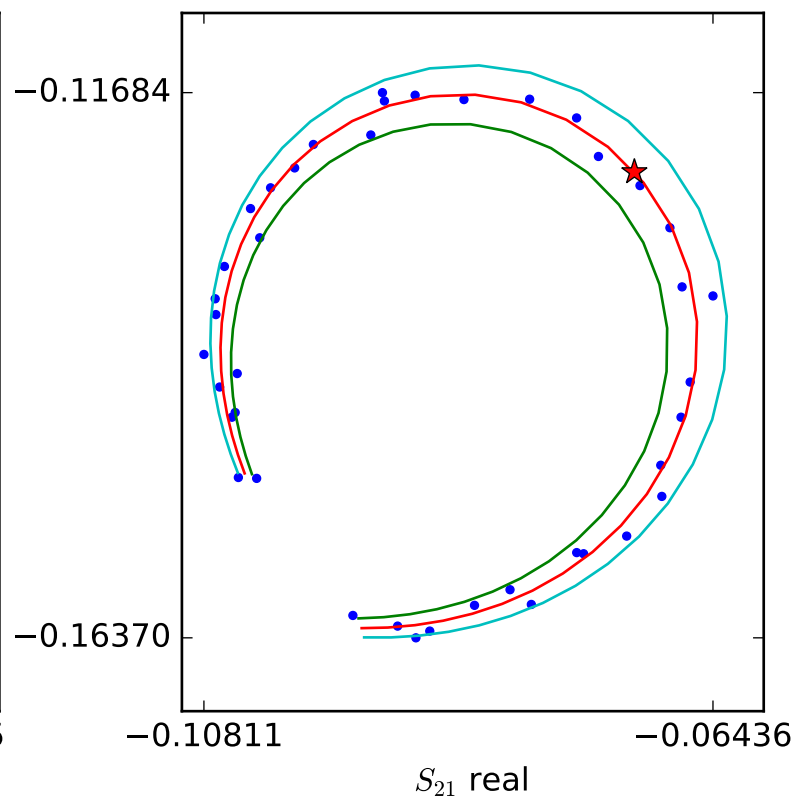
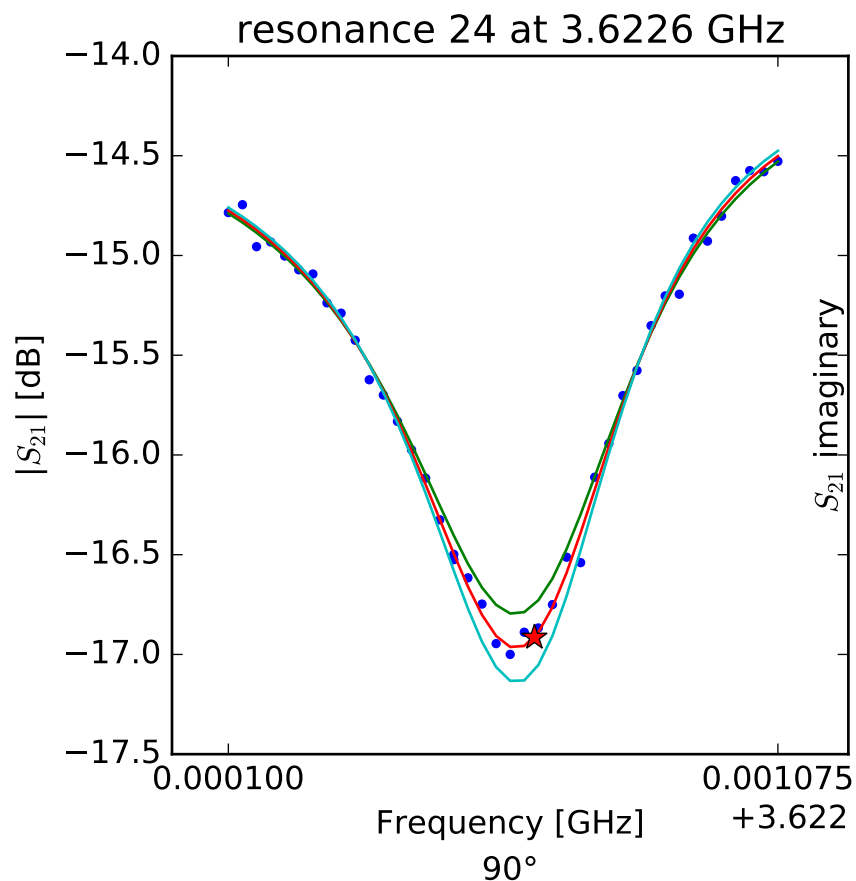
$$S_{21}(f) = ae^{-2\pi jf\tau} \left[1 - \frac{Q_r/Q_c e^{j\phi_0}}{1 + 2jQ_r \left(\frac{f-f_r}{f_r} \right)} \right]$$

$$\begin{aligned} f_r &= 3.59431622634 \\ Q_r &= 12606.9035032 \\ Q_c &= 33756.2825003 \\ a &= (0.188356165901 - 0.0241785547616j) \\ \phi_0 &= -0.760101632286 \\ \tau &= 27.1502716169 \end{aligned}$$



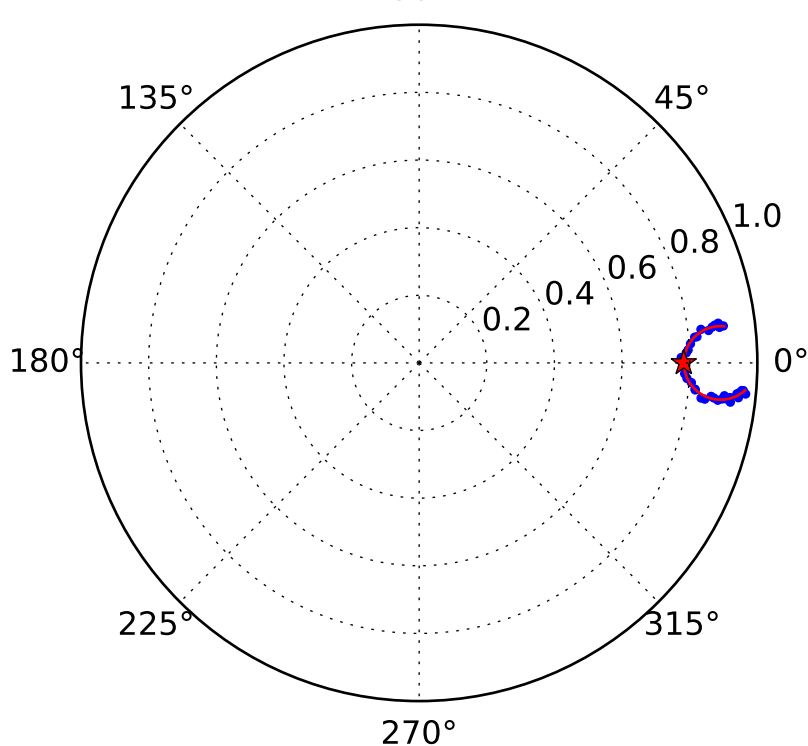
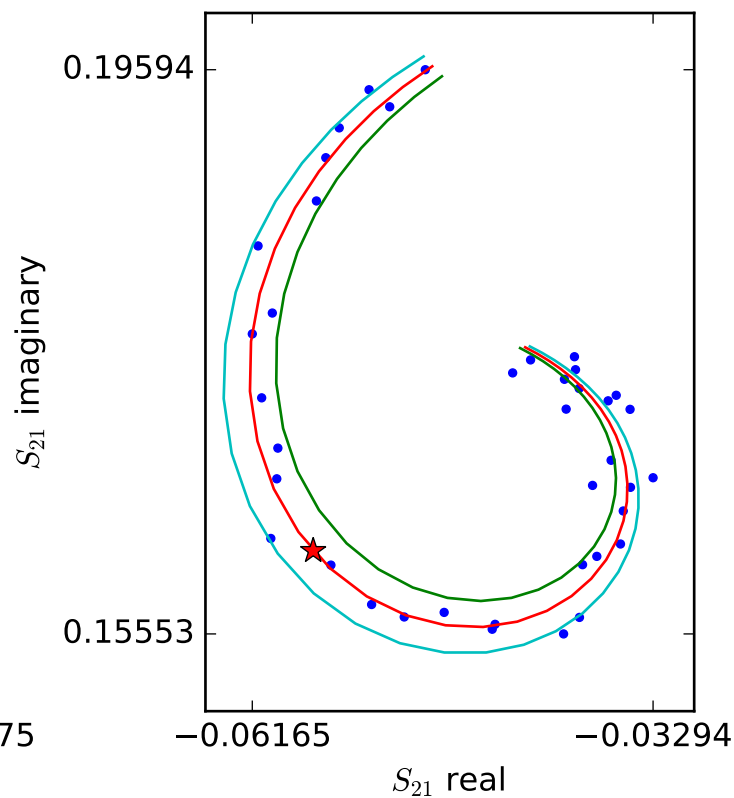
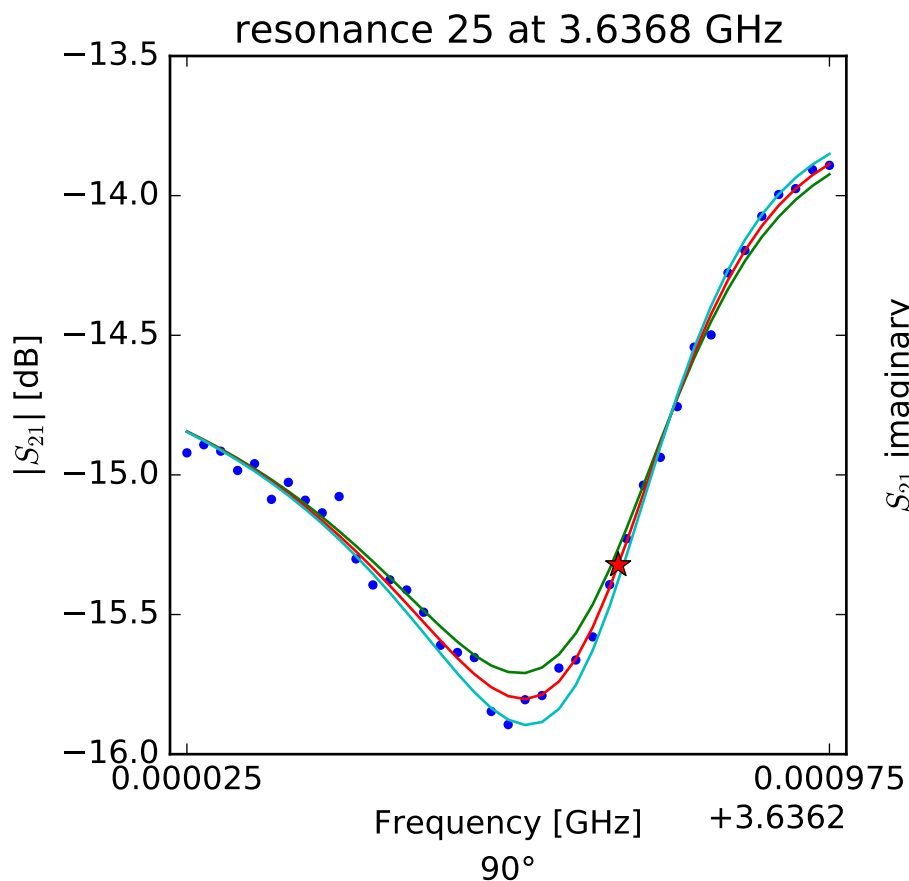
$$S_{21}(f) = ae^{-2\pi jf\tau} \left[1 - \frac{Q_r/Q_c e^{j\phi_0}}{1 + 2jQ_r \left(\frac{f-f_r}{f_r} \right)} \right]$$

$$\begin{aligned} f_r &= 3.60895603203 \\ Q_r &= 10160.9226091 \\ Q_c &= 71236.0986101 \\ a &= (-0.161252041838 + 0.0604461349507j) \\ \phi_0 &= 0.887346726944 \\ \tau &= 24.7791327926 \end{aligned}$$



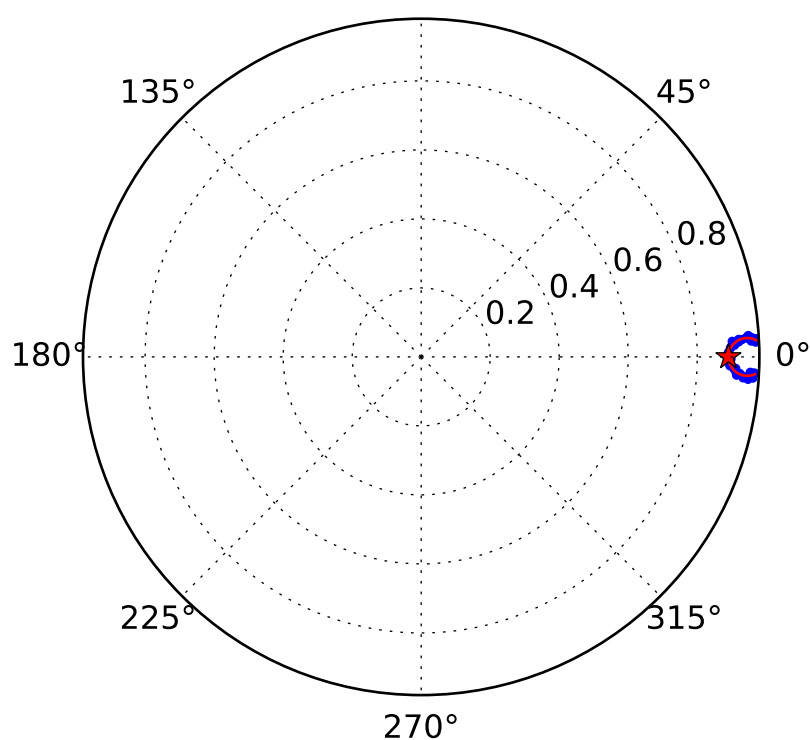
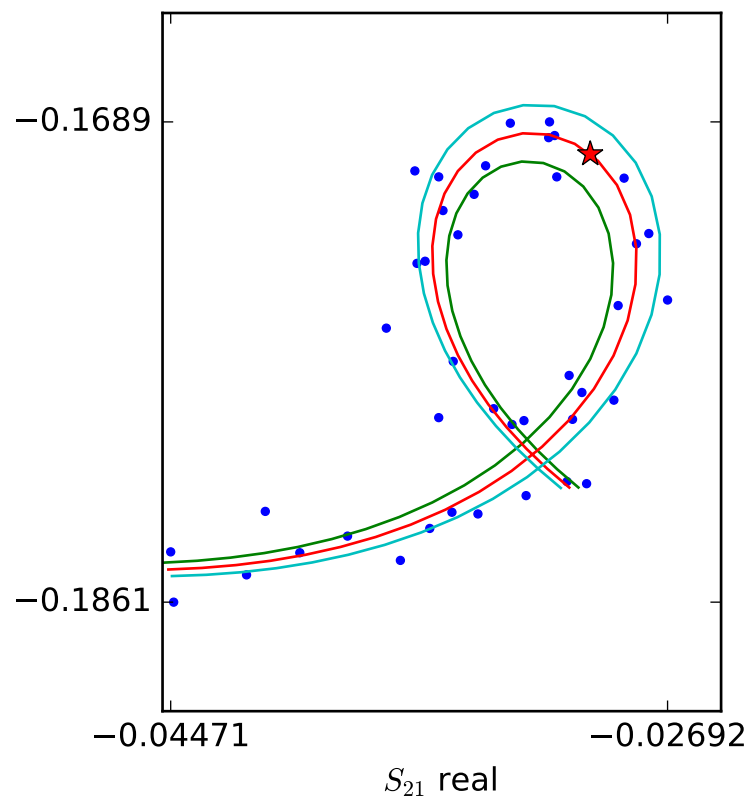
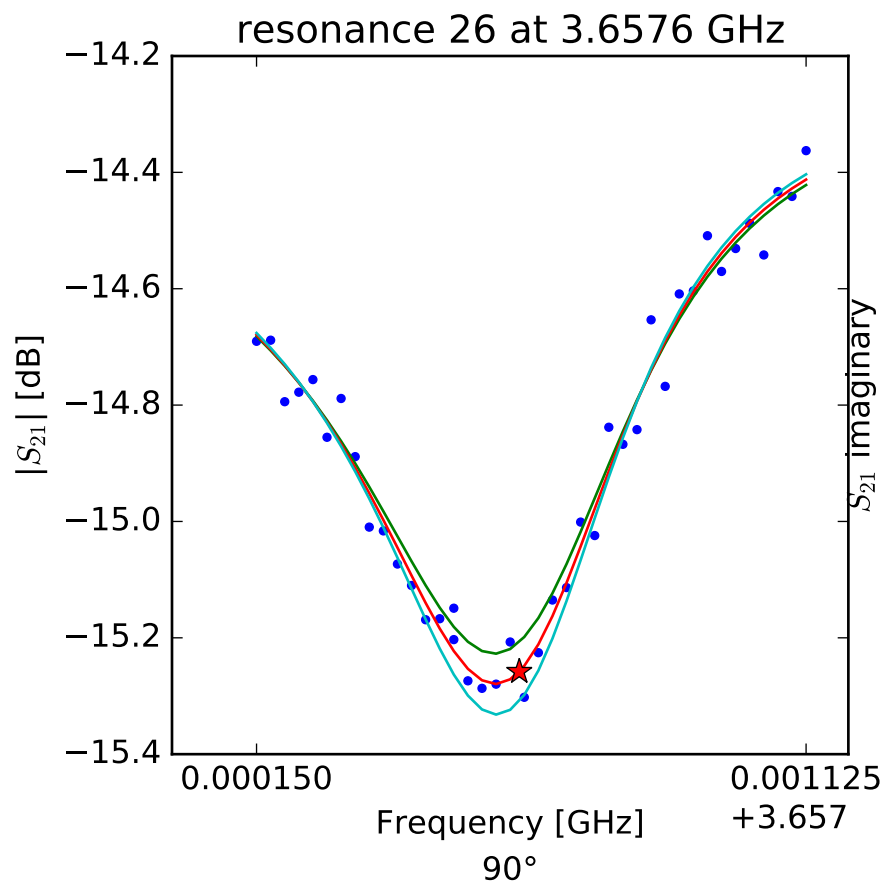
$$S_{21}(f) = ae^{-2\pi jf\tau} \left[1 - \frac{Q_r/Q_c e^{j\phi_0}}{1 + 2jQ_r \left(\frac{f-f_r}{f_r} \right)} \right]$$

$$\begin{aligned} f_r &= 3.62264303104 \\ Q_r &= 6396.38255657 \\ Q_c &= 22344.6223311 \\ a &= (-0.0155525970026 - 0.197142675227j) \\ \phi_0 &= -0.195691053784 \\ \tau &= 29.5593091104 \end{aligned}$$



$$S_{21}(f) = ae^{-2\pi jf\tau} \left[1 - \frac{Q_r/Q_c e^{j\phi_0}}{1 + 2jQ_r \left(\frac{f-f_r}{f_r} \right)} \right]$$

$$\begin{aligned} f_r &= 3.63686273761 \\ Q_r &= 6428.13299144 \\ Q_c &= 29546.5778281 \\ a &= (-0.17979159044 + 0.0815998360068j) \\ \phi_0 &= -0.828337467508 \\ \tau &= 27.5395344926 \end{aligned}$$



$$S_{21}(f) = ae^{-2\pi jf\tau} \left[1 - \frac{Q_r/Q_c e^{j\phi_0}}{1 + 2jQ_r \left(\frac{f-f_r}{f_r} \right)} \right]$$

$$\begin{aligned} f_r &= 3.65761615317 \\ Q_r &= 6013.44596441 \\ Q_c &= 54889.5466699 \\ a &= (-0.137076845446 + 0.135800946325j) \\ \phi_0 &= -0.261519785906 \\ \tau &= 27.5201898395 \end{aligned}$$