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May 17, 2013

Via Electronic Submission
Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, S.W., Room TW-A325
Washington, D.C. 20554

Re: ***Ex Parte Notice:*** *Service Rules for the Advanced Wireless Services H Block–Implementing Section 6401 of the Middle Class Tax Relief and Job Creation Act of 2012 Related to the 1915-1920 MHz and 1995-2000 MHz Bands,* WT Docket No. 12-357

Dear Ms. Dortch:

On May 15, 2013, I spoke by telephone with Tom Peters, Chief Engineer of the Wireless Telecommunications Bureau, regarding certain aspects of this proceeding.

In particular, I provided an update to Mr. Peters regarding the additional testing that Sprint and V-COMM, L.L.C. have been performing on PCS devices to assess the likelihood of interference to such devices from prospective devices operating in the H Block. I indicated that the additional testing is consistent with earlier testing results Sprint submitted in the proceeding,[1] and continues to support Sprint's recommended power and out-of-band emissions (OOBE) limits for H Block mobile devices into the PCS band above 1930 MHz.[2] I indicated that Sprint expects to file more details on the results of that testing within a few days.

In response to Mr. Peter's inquiry regarding the ability of H Block device manufacturers to meet the proposed OOBE limit, I mentioned the attached analysis that was recently provided to Sprint by Avago Technologies regarding the simulated performance of a G+H Block duplexer.

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1 *See Reply Comments of Sprint Nextel Corporation*, WT Docket No. 12-357, at Exhibit A (filed Mar. 7, 2013).

2 *Id.* at 11 and n. 42.

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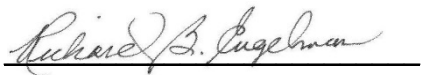
I also discussed, at Mr. Peter's request, the observations made in footnote 42 of our Reply Comments in this proceeding.[3]

Pursuant to section 1.1206(b) of the Commission's rules,[4] this letter is being submitted for inclusion in the public record of the above-referenced proceeding.

Respectfully submitted,



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Attachment

cc: Tom Peters (via e-mail)

3 *Id.*

4 47 C.F.R. § 1.1206(b).

Simulated Performance a G+H Block Duplexer

February, 2013

Comments on Simulations

The plots shown on the following pages are linear simulations useful in predicting the capabilities of Avago Technologies' Film Bulk Acoustic Resonator (FBAR) filter process.

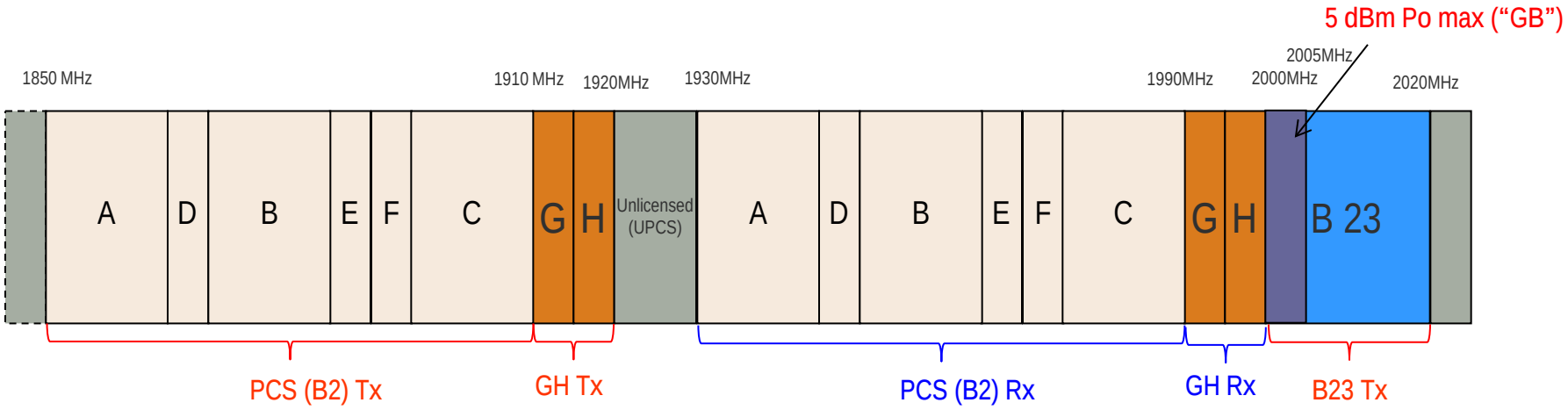
Linear simulations of the kind included here typically give a good indication of the bandwidth and roll off (rejection) that can be achieved in physical filters. Insertion loss numbers are realistic, though sometimes slightly (tenths of a dB) optimistic. While these simulations do not allow negotiation of a final specification in full detail, they provide enough information to indicate process capability, and can be used to make tradeoffs when considering design options.

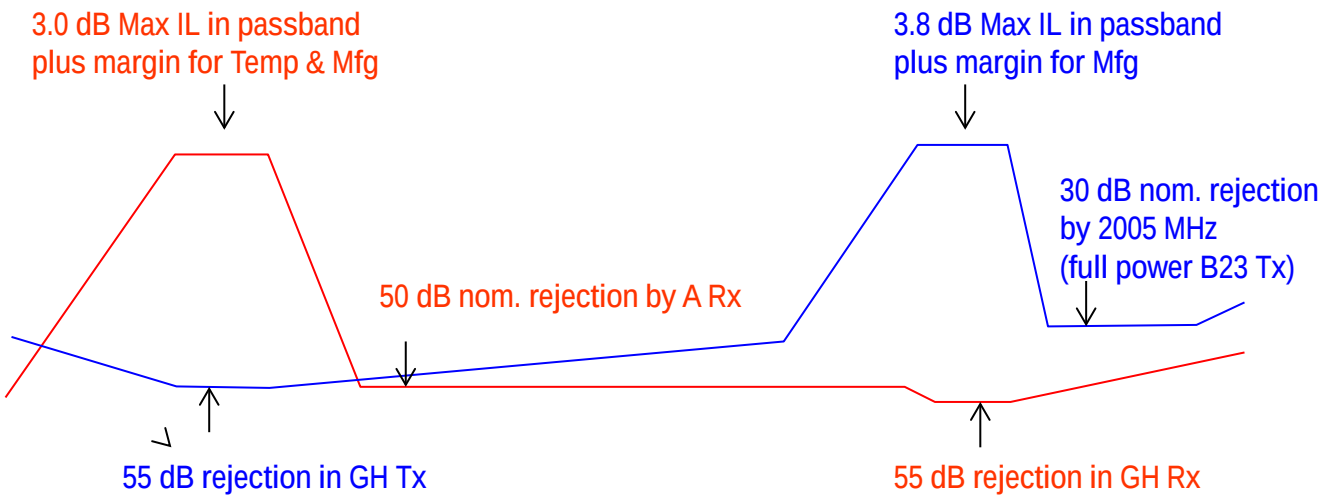
In these simulation the focus was on minimizing insertion loss while maintaining good isolation. Main targets were 30 dB of rejection 5 MHz above the Rx band, and 50 dB of rejection 10 MHz above the Tx band. Broadband considerations such as rejection in specific bands or performance of harmonics were not addressed in this design. It is possible to optimize the design for other aspects of performance, so these results should be viewed as a starting place to look at what is possible, not the final word on all aspects of performance.

The plots unless otherwise noted represent the performance of typical filters at room temperature (25C). Variations in performance across manufacturing and over temperature also need to be accounted for when guaranteeing filter performance. This effect can be modeled with a shift of filter response in frequency. To meet rejection in 5 MHz, the Rx filter needs to be fully temperature compensated; for this filter a manufacturing variation of +/1 MHz is assumed across -30C to +85C. The Tx filter is assumed to be partially compensated, so would see a motion of +/-3.5 MHz across -30C to +85C including mfg variation. The response shifts lower in frequency at higher temperatures (negative temperature coefficient)

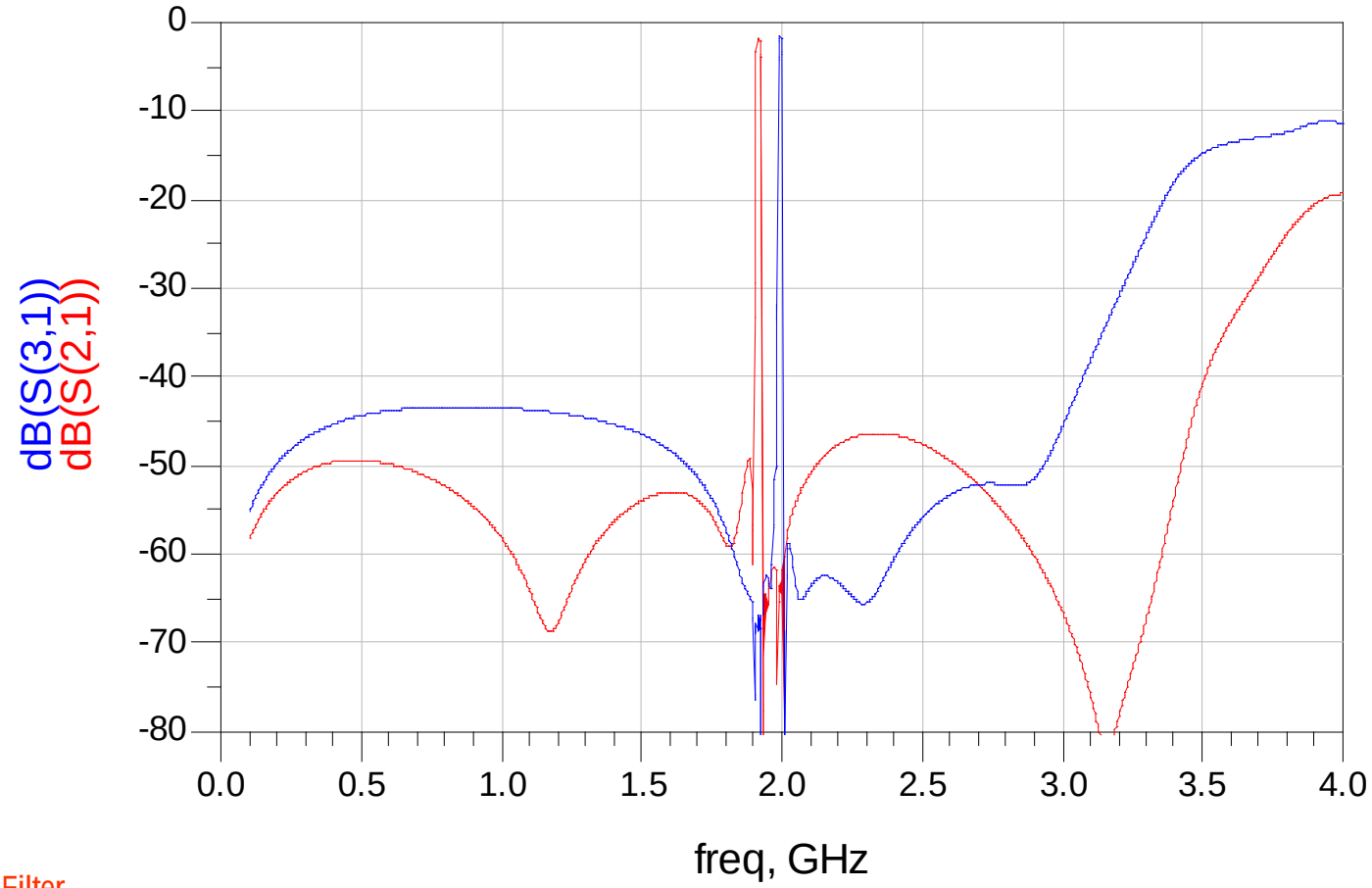
At this time there is not yet a plan or commitment to make hardware to support this application. These simulations are for informational purposes only.

GH Duplexer: Target Performance



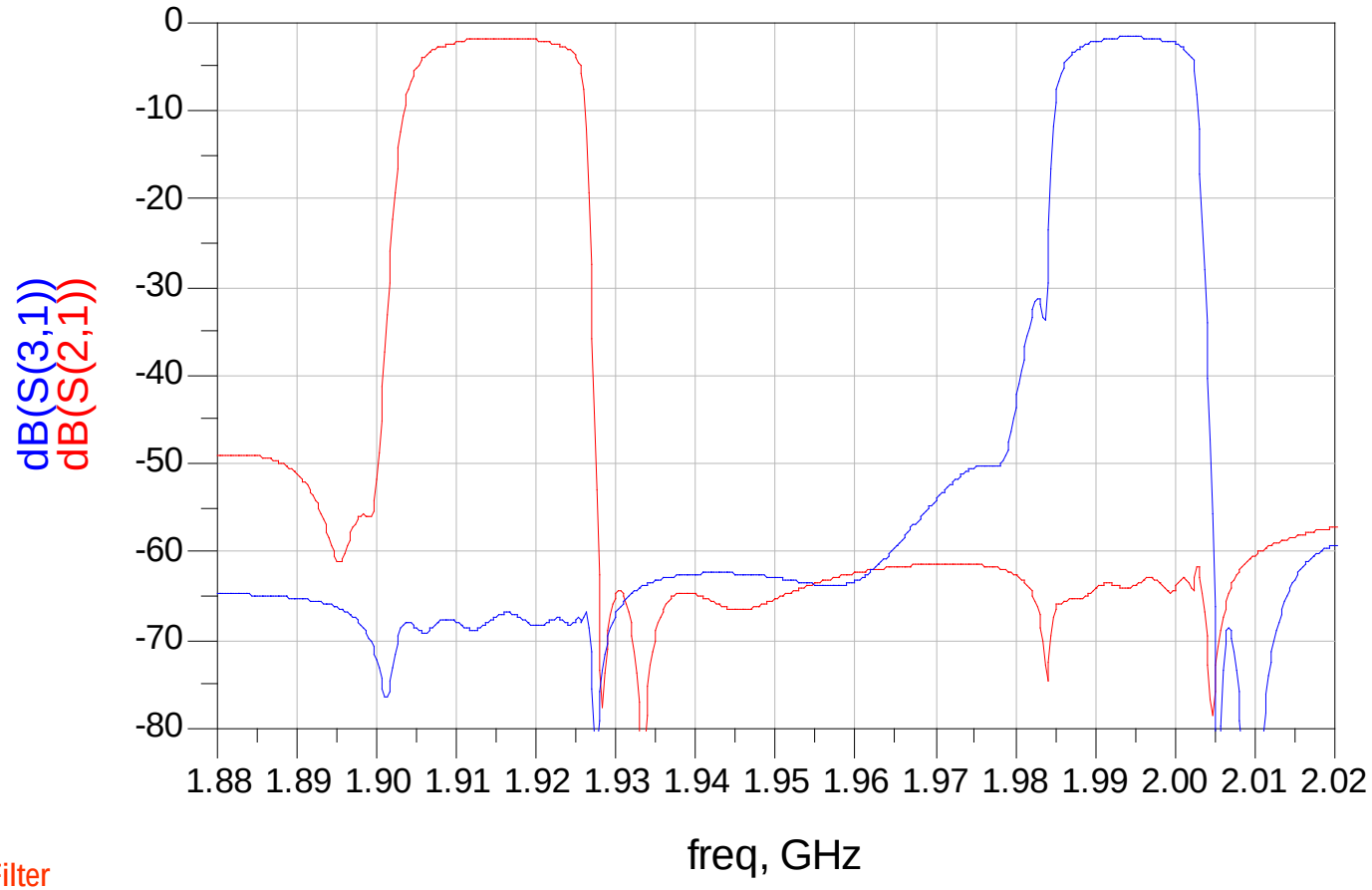


GH Duplexer: Broadband



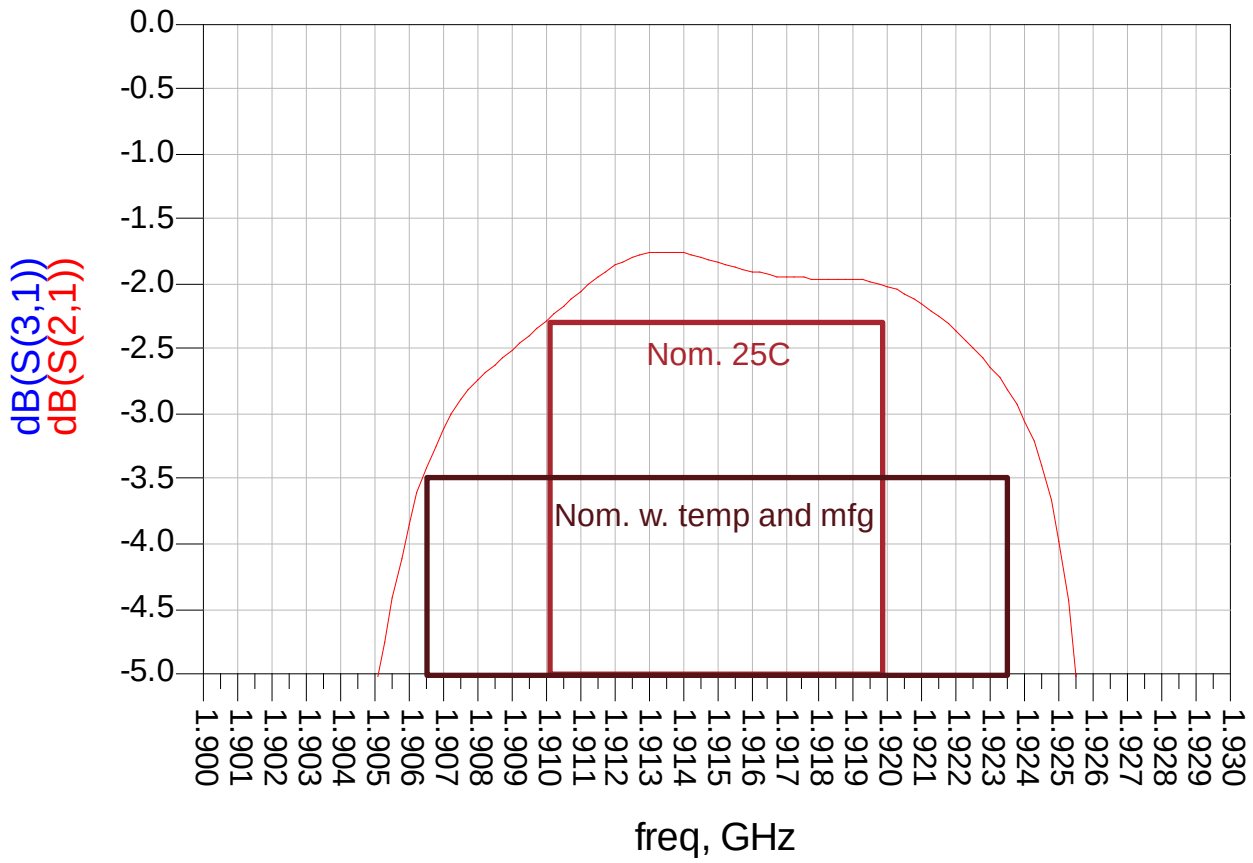
Red – Tx Filter
Blue – Rx Filter
Magenta - antenna

GH Duplexer: Pass Band



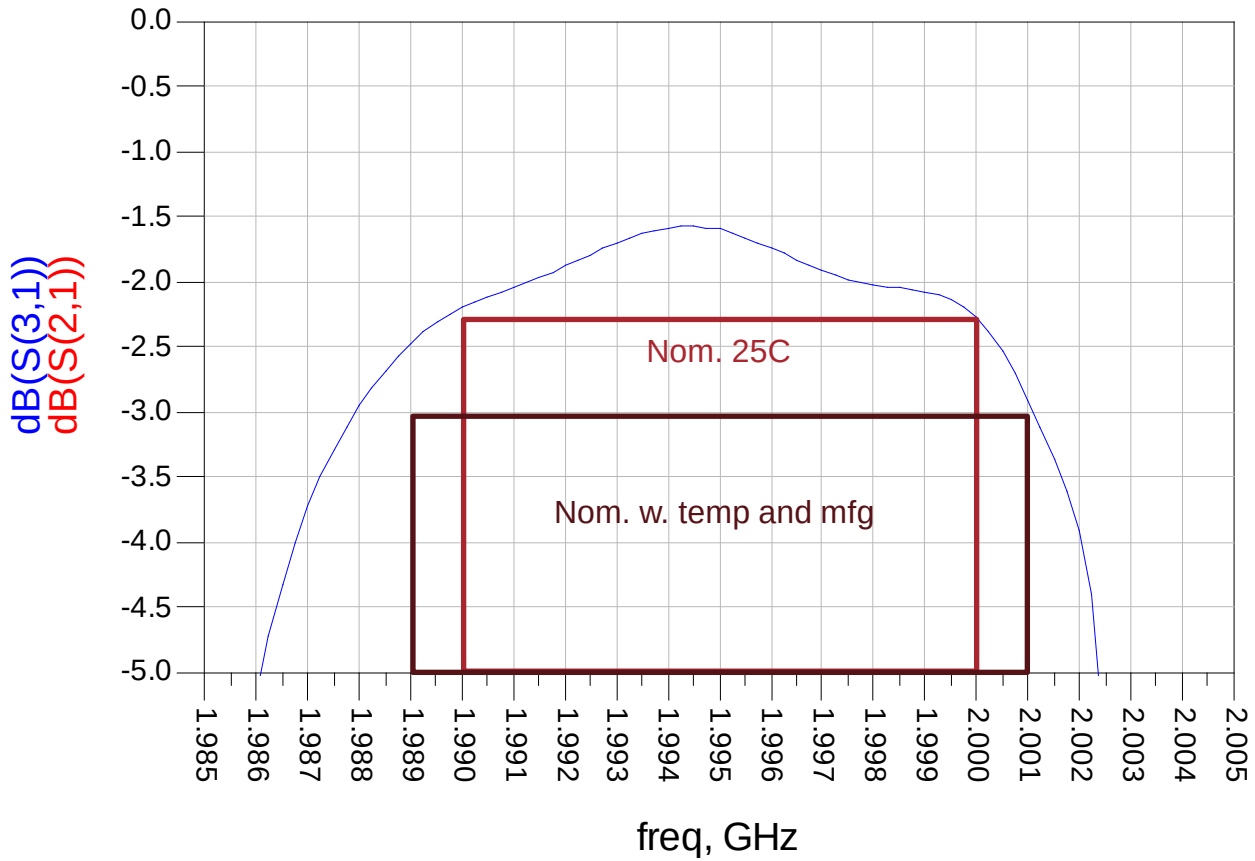
Red – Tx Filter
Blue – Rx Filter
Magenta - antenna

GH Duplexer: Insertion Loss Tx



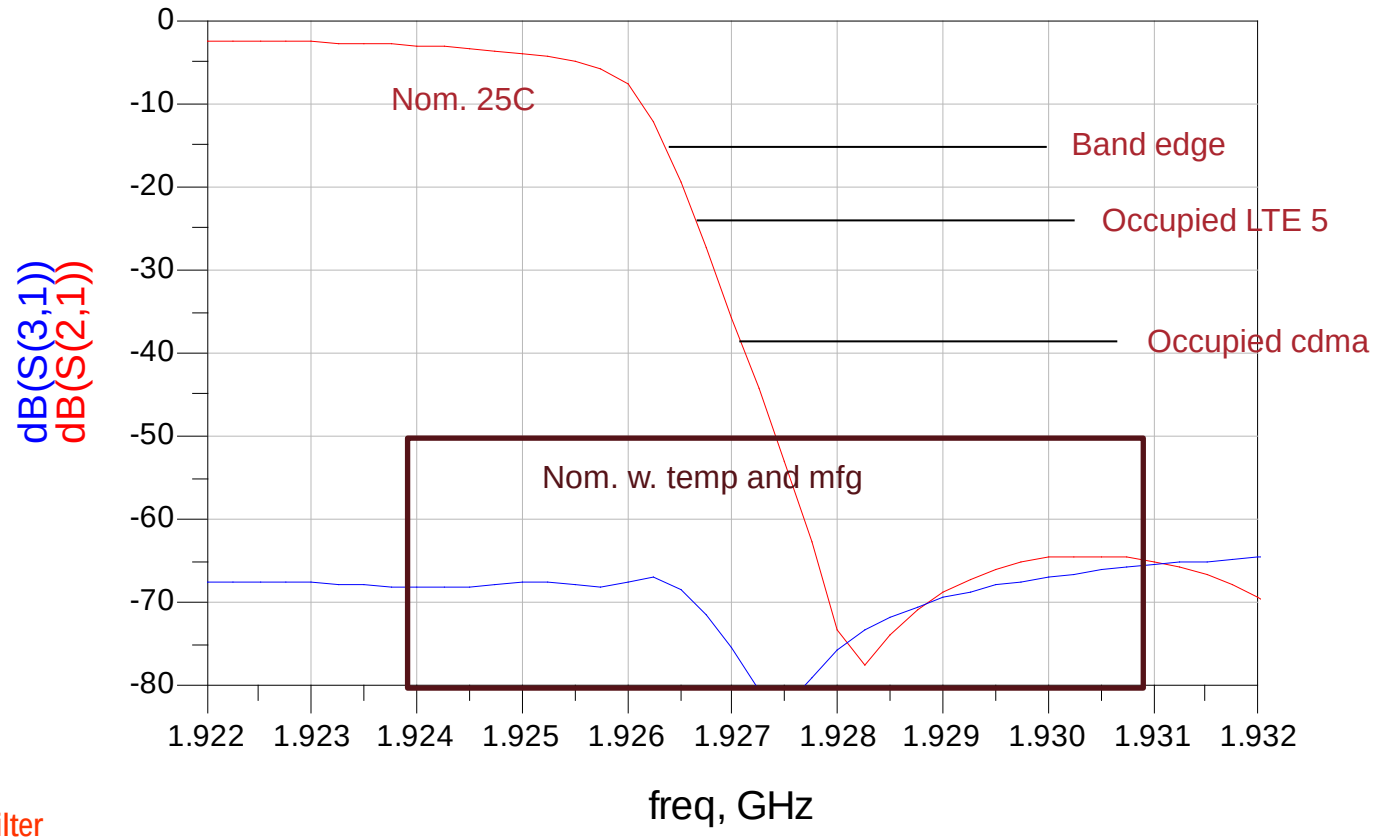
Red – Tx Filter
Blue – Rx Filter
Magenta - antenna

GH Duplexer: Insertion Loss Rx



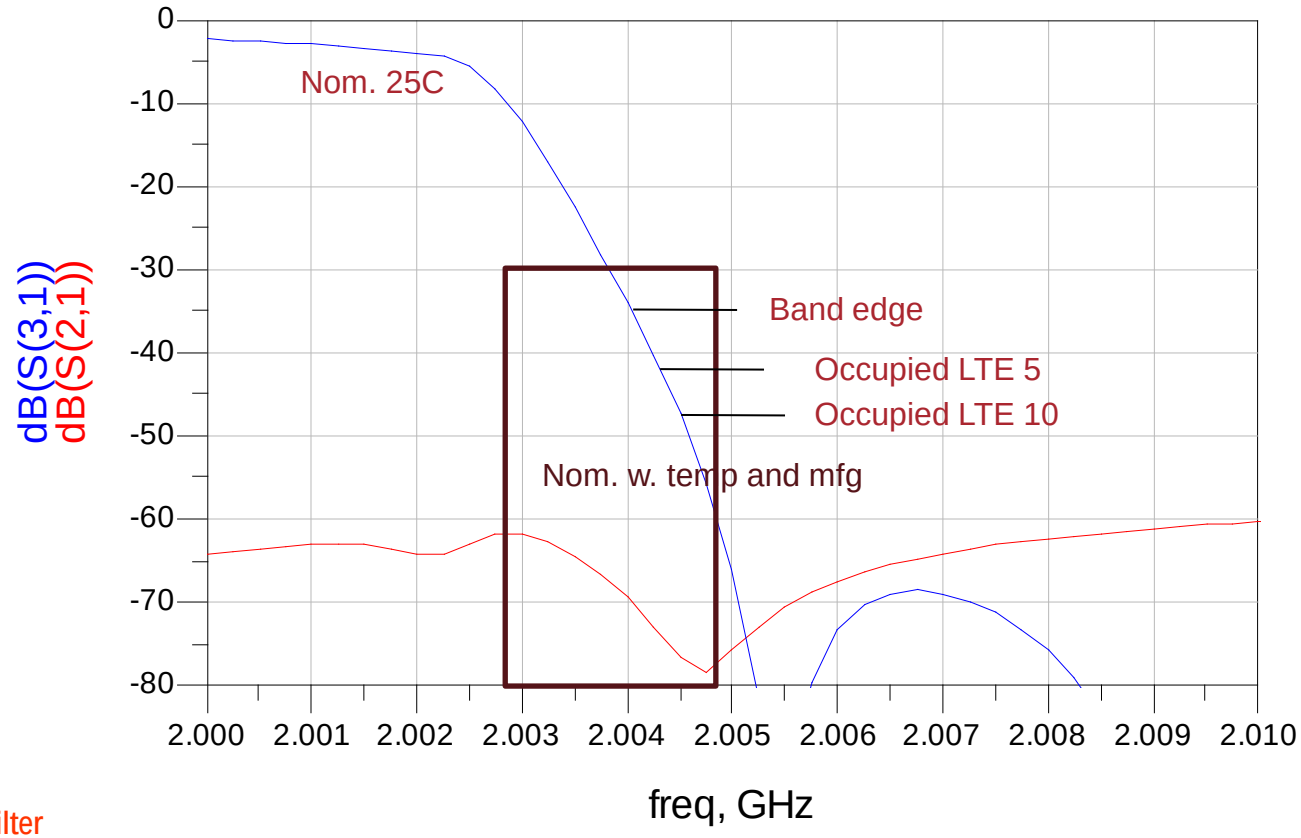
Red – Tx Filter
Blue – Rx Filter
Magenta - antenna

GH Duplexer: Tx Rolloff to A Block



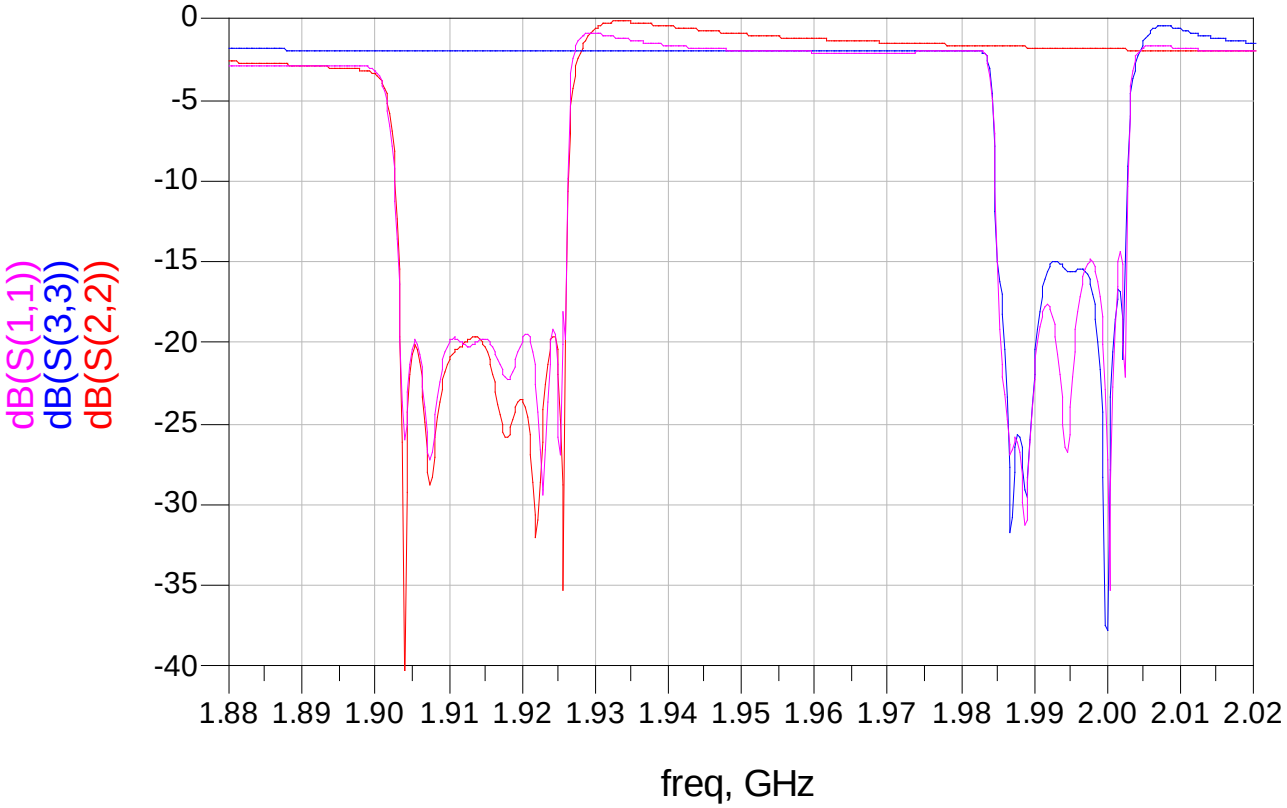
Red – Tx Filter
Blue – Rx Filter
Magenta - antenna

GH Duplexer: Rx Rolloff to B23 High Power



Red – Tx Filter
Blue – Rx Filter
Magenta - antenna

GH Duplexer: Return Loss



Red – Tx Filter
Blue – Rx Filter
Magenta - antenna