TS5USBC412: S-parameter Model

High-Speed USB 2.0 1:2 Mux/Demux Switch with OVP

TEXAS INSTRUMENTS

Setup Notes:

- Bench board traces have been de-embedded at the VNA (Ag N5230A)

- Using RF power of -10dBm

- VNA start freq: 300 kHz, stop freq: 2.0 GHz, IF BW:1kHz

- Six measurements were taken and combined into a single s6p file.
  - Port order: (1,3,5,2,4,6)

- Two files provided:
  - SEL1 = SEL2 = H: 412_SEL1-H_SEL2-H.s6p
 - SEL1 = SEL2 = L: 412_SEL1-L_SEL2-L.s6p

TEXAS INSTRUMENTS

TS5USBC412 s6p test setup:

meas#	VNA port#	DUT port#		DUT 221E		DUT port#	VNA port#
1	1	1	D+		1D+	2	2
	3	3	D−		1D−	4	4
	term				2D+	5	term
	term				2D−	6	term
2	term	1	D+		1D+	2	term
	term	3	D−		1D−	4	term
	1				2D+	5	2
	3				2D−	6	4
3	1	1	D+		1D+	2	term
	3	3	D−		1D−	4	term
	term				2D+	5	2
	term				2D−	6	4
4	term	1	D+		1D+	2	2
	term	3	D−		1D−	4	4
	1				2D+	5	term
	3				2D−	6	term
5	1	1	D+		1D+	2	term
	3	3	D−		1D−	4	term
	2				2D+	5	term
	4				2D−	6	term
6	term	1	D+		1D+	2	1
	term	3	D−		1D−	4	3
	term				2D+	5	2
	term				2D−	6	4

YFF Package
12-Pin DSBGA
Top View

	1	2	3	4
A	SEL1	P1 D+	P3 D−	$\overline{FLT}$
B	VCC	SEL2	GND	$\overline{OE}$
C	D2+	D2−	D1+	D1−

P5   P6   P2   P4

Not to scale
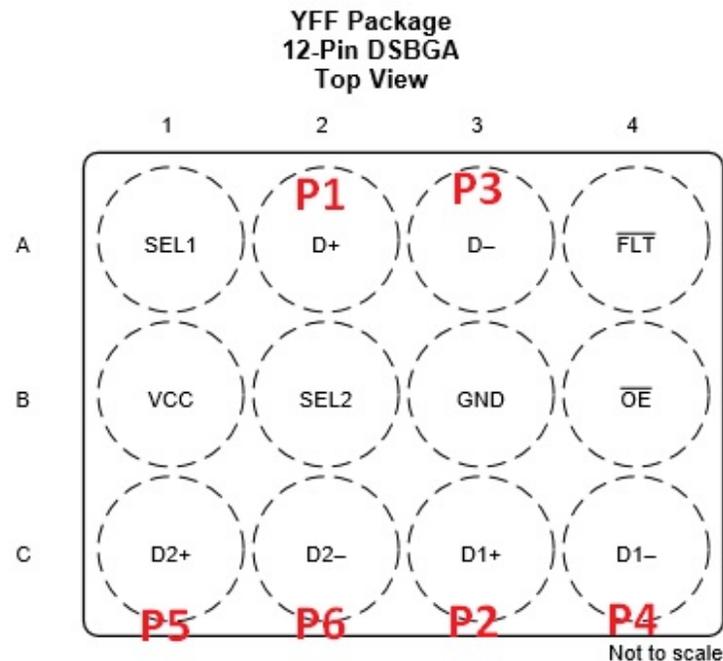
- Unused ports terminated with 50Ω.

ADS Test Bench
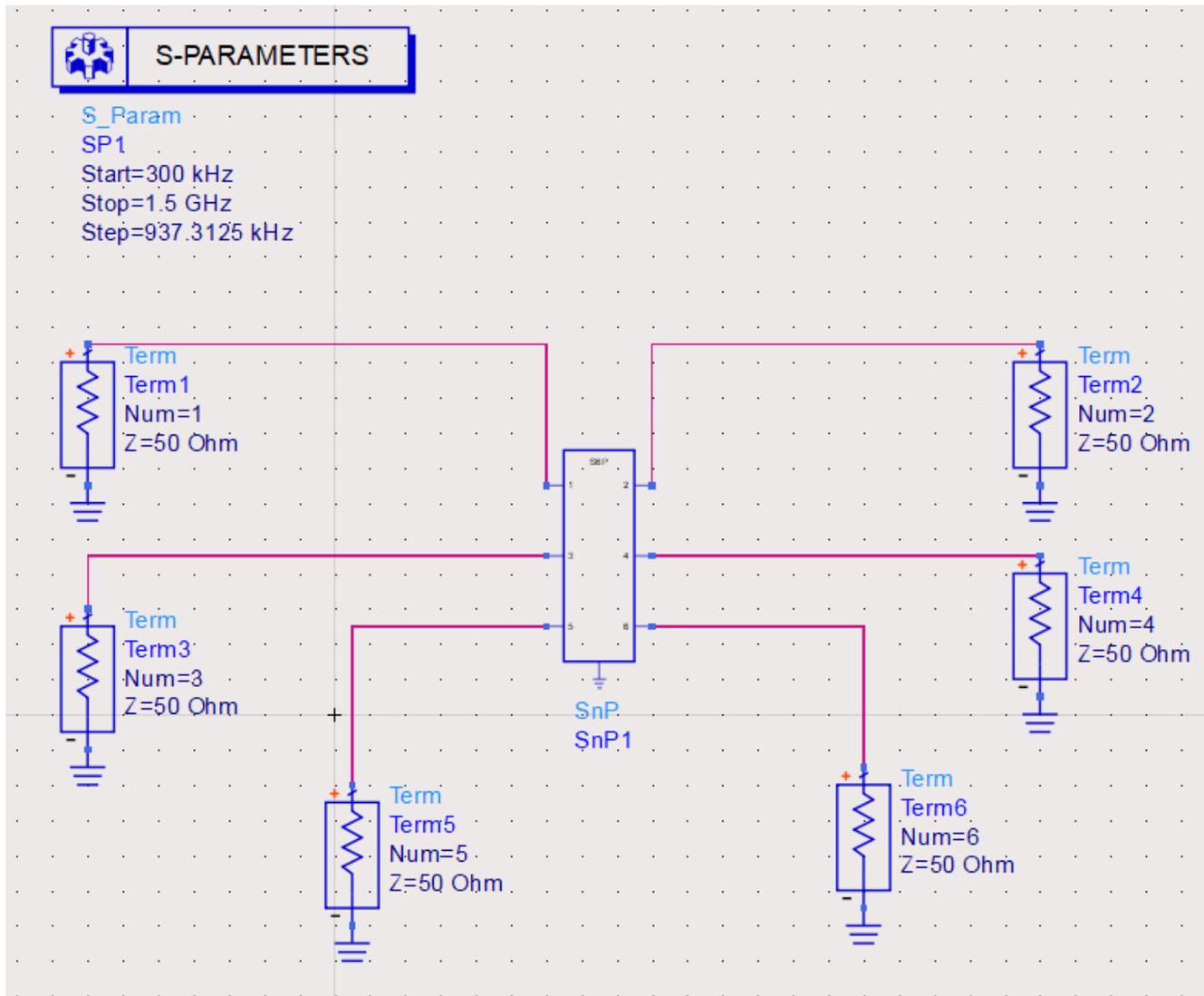
412_SEL1-L_SEL2-L.s6p Results

TEXAS INSTRUMENTS
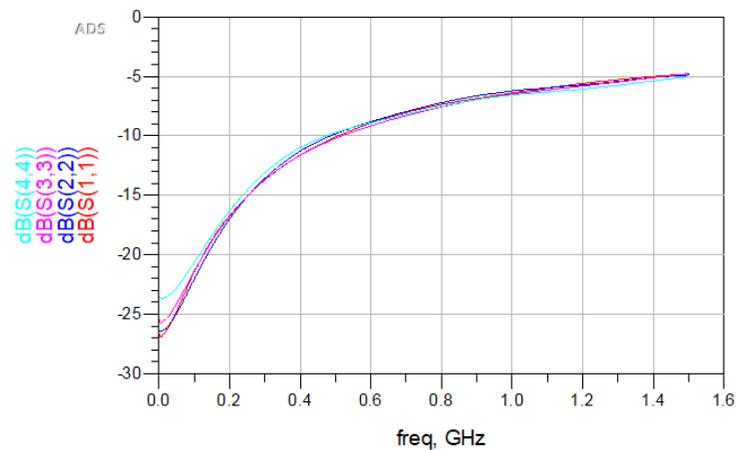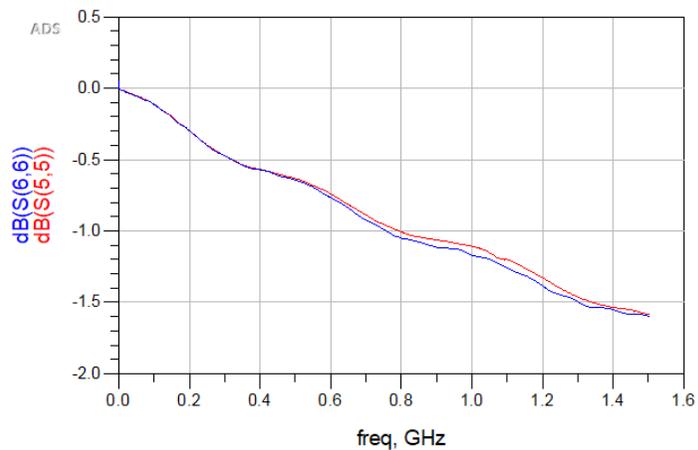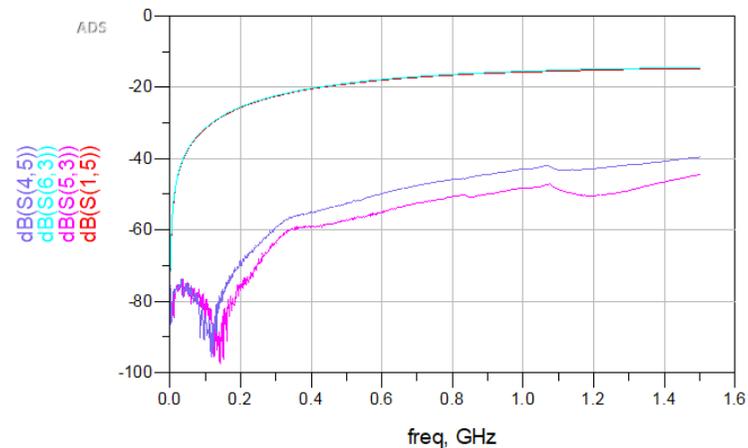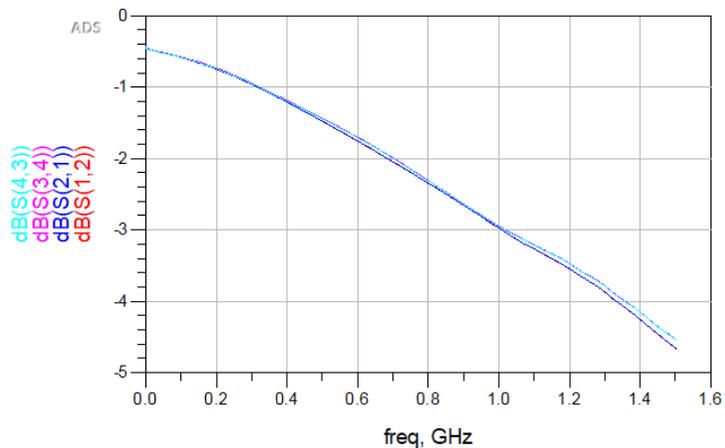
412_SEL1-H_SEL2-H.s6p Results