

2 Way 90° Power Splitter/Combiner

QCH-123+

Typical Performance Data

TEST CONDITIONS: INPUT POWER =+5 dBm @Temperature = -55°C, Sum port at pad 1

FREQ. (MHz)	TOTAL LOSS			Amp. Unbal. (±dB) See Note	Phase Unbal. (deg) See Note	ISOLATION (dB) Port 1 - Port 2	VSWR			
	Sum-Port 1	Sum-Port 2	Avg				(:1) Sum	Port 1	Port 2	Iso
7000	2.83	3.39	3.10	0.29	0.32	24.53	1.17	1.16	1.10	1.10
7200	2.88	3.33	3.10	0.24	0.08	24.34	1.12	1.12	1.16	1.16
7400	2.93	3.26	3.09	0.17	0.31	24.41	1.09	1.08	1.17	1.19
7600	3.02	3.19	3.10	0.08	0.33	26.59	1.14	1.10	1.05	1.09
7700	3.06	3.16	3.11	0.05	0.26	28.50	1.15	1.11	1.05	1.04
7800	3.09	3.12	3.10	0.02	0.19	28.04	1.15	1.12	1.07	1.04
7900	3.13	3.10	3.11	0.02	0.09	26.13	1.15	1.12	1.09	1.09
8000	3.15	3.09	3.12	0.03	-0.08	24.73	1.14	1.10	1.11	1.14
8100	3.16	3.07	3.11	0.05	0.11	24.44	1.12	1.08	1.13	1.17
8200	3.19	3.05	3.12	0.07	0.16	24.97	1.13	1.07	1.10	1.15
8300	3.22	3.02	3.12	0.10	0.13	25.93	1.15	1.09	1.08	1.10
8400	3.25	3.01	3.13	0.12	0.16	27.06	1.15	1.10	1.09	1.07
8500	3.29	2.99	3.14	0.15	0.01	27.41	1.14	1.11	1.13	1.06
8600	3.30	2.97	3.13	0.17	-0.05	25.75	1.13	1.13	1.14	1.11
8700	3.32	2.96	3.14	0.18	-0.18	24.23	1.11	1.13	1.17	1.19
8800	3.32	2.96	3.14	0.18	-0.18	23.68	1.07	1.11	1.22	1.25
8900	3.31	2.95	3.13	0.18	-0.03	23.74	1.06	1.09	1.23	1.27
9000	3.34	2.93	3.13	0.21	0.18	24.73	1.06	1.06	1.20	1.23
9100	3.37	2.91	3.13	0.23	0.20	26.61	1.06	1.06	1.17	1.16
9200	3.40	2.92	3.15	0.24	0.10	27.79	1.07	1.09	1.16	1.12
9300	3.44	2.90	3.16	0.27	0.13	27.28	1.07	1.11	1.16	1.13
9400	3.46	2.90	3.17	0.28	-0.10	25.46	1.08	1.12	1.21	1.19
9500	3.45	2.93	3.18	0.26	-0.33	24.19	1.10	1.10	1.29	1.26
9600	3.43	2.93	3.17	0.25	-0.01	24.12	1.11	1.08	1.34	1.29
9700	3.44	2.94	3.18	0.25	0.22	25.28	1.10	1.06	1.33	1.29
9800	3.46	2.95	3.20	0.25	0.68	26.97	1.10	1.05	1.31	1.22
9900	3.47	2.92	3.19	0.27	0.61	27.89	1.09	1.05	1.27	1.18
10000	3.50	2.91	3.19	0.29	0.68	27.51	1.09	1.08	1.23	1.16
10100	3.52	2.89	3.19	0.31	0.73	25.93	1.10	1.09	1.22	1.18
10200	3.56	2.91	3.22	0.32	0.87	24.80	1.12	1.08	1.25	1.23
10300	3.54	2.93	3.22	0.31	0.61	24.66	1.14	1.05	1.27	1.25
10400	3.53	2.92	3.21	0.30	0.79	26.08	1.15	1.01	1.26	1.20
10500	3.57	2.92	3.23	0.32	0.81	27.67	1.16	1.04	1.25	1.13
10600	3.58	2.93	3.24	0.32	0.89	27.49	1.17	1.07	1.23	1.08
10700	3.58	2.92	3.24	0.33	0.94	26.12	1.16	1.09	1.24	1.09
10800	3.61	2.92	3.25	0.34	0.91	24.95	1.17	1.09	1.23	1.11
10900	3.58	2.94	3.25	0.32	1.00	23.80	1.18	1.09	1.21	1.12
11000	3.60	2.94	3.26	0.33	1.13	24.20	1.18	1.10	1.15	1.11
11100	3.60	2.95	3.26	0.32	1.12	25.68	1.21	1.14	1.09	1.08
11200	3.62	2.94	3.27	0.33	1.37	28.24	1.25	1.20	1.15	1.09
11300	3.64	2.96	3.29	0.34	1.35	29.49	1.27	1.25	1.21	1.13
11400	3.67	2.96	3.30	0.35	0.97	28.70	1.27	1.26	1.21	1.10
11500	3.64	3.00	3.31	0.32	0.96	26.88	1.23	1.24	1.17	1.02
11600	3.58	2.98	3.27	0.30	0.94	25.62	1.18	1.20	1.14	1.05
11700	3.56	2.96	3.25	0.30	1.28	25.88	1.16	1.19	1.10	1.09
11800	3.59	2.98	3.27	0.30	1.50	27.68	1.20	1.23	1.01	1.13
11900	3.57	2.97	3.26	0.30	1.37	30.66	1.23	1.29	1.13	1.23
12000	3.58	2.99	3.27	0.29	1.19	33.96	1.24	1.33	1.24	1.34
12100	3.53	3.00	3.26	0.26	1.20	32.85	1.23	1.33	1.29	1.37
12200	3.54	3.00	3.26	0.26	1.17	31.46	1.18	1.28	1.22	1.28
12400	3.48	3.01	3.24	0.23	0.75	41.20	1.05	1.20	1.10	1.10
12600	3.49	3.05	3.26	0.21	0.25	27.29	1.05	1.30	1.19	1.19
12800	3.38	3.21	3.29	0.08	-0.34	21.37	1.02	1.30	1.37	1.41
13000	3.33	3.28	3.30	0.02	0.95	20.72	1.15	1.25	1.24	1.25

Note: Phase Unbalance shown relative to 90°; Amplitude Unbalance 1/2 of peak-to-peak difference

Notes

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Typical Performance Data

TEST CONDITIONS: INPUT POWER =+5 dBm @Temperature = -55°C, Sum port at pad 2

FREQ. (MHz)	TOTAL LOSS			Amp. Unbal. (±dB) See Note	Phase Unbal. (deg) See Note	ISOLATION (dB) Port 1 - Port 2	VSWR			
	Sum-Port 1	Sum-Port 2	Avg				(:1) Sum	Port 1	Port 2	Iso
7000	2.89	3.43	3.15	0.26	-0.57	24.49	1.10	1.10	1.16	1.17
7200	2.99	3.36	3.17	0.18	-0.62	24.32	1.16	1.16	1.12	1.12
7400	3.08	3.29	3.18	0.11	-0.67	24.40	1.19	1.17	1.08	1.09
7600	3.12	3.20	3.16	0.05	-0.56	26.58	1.09	1.05	1.10	1.14
7700	3.14	3.17	3.15	0.02	-0.54	28.49	1.04	1.05	1.11	1.15
7800	3.18	3.13	3.15	0.03	-0.53	28.03	1.04	1.07	1.12	1.15
7900	3.22	3.12	3.17	0.05	-0.52	26.12	1.09	1.09	1.12	1.15
8000	3.26	3.11	3.18	0.08	-0.64	24.73	1.14	1.11	1.10	1.14
8100	3.29	3.09	3.19	0.10	-0.64	24.45	1.17	1.13	1.08	1.12
8200	3.31	3.07	3.19	0.12	-0.62	24.97	1.15	1.10	1.07	1.13
8300	3.32	3.04	3.18	0.14	-0.56	25.93	1.10	1.08	1.09	1.15
8400	3.35	3.02	3.18	0.17	-0.48	27.05	1.07	1.09	1.10	1.15
8500	3.38	2.98	3.18	0.20	-0.53	27.38	1.06	1.13	1.11	1.14
8600	3.41	2.99	3.19	0.22	-0.59	25.74	1.11	1.14	1.13	1.13
8700	3.45	2.99	3.21	0.23	-0.63	24.24	1.19	1.17	1.13	1.11
8800	3.50	3.01	3.25	0.25	-0.70	23.68	1.25	1.22	1.11	1.07
8900	3.51	3.01	3.25	0.26	-0.66	23.74	1.27	1.23	1.09	1.06
9000	3.52	2.98	3.24	0.27	-0.64	24.73	1.23	1.20	1.06	1.06
9100	3.53	2.95	3.23	0.29	-0.61	26.60	1.16	1.17	1.06	1.06
9200	3.53	2.92	3.21	0.31	-0.55	27.77	1.12	1.16	1.09	1.07
9300	3.56	2.91	3.22	0.33	-0.40	27.26	1.13	1.16	1.11	1.07
9400	3.60	2.94	3.26	0.33	-0.54	25.44	1.19	1.21	1.12	1.08
9500	3.66	2.94	3.29	0.36	-0.39	24.19	1.26	1.29	1.10	1.10
9600	3.69	2.94	3.30	0.38	-0.63	24.12	1.29	1.34	1.08	1.11
9700	3.72	2.97	3.33	0.38	-0.85	25.27	1.29	1.33	1.06	1.10
9800	3.70	2.95	3.31	0.37	-0.65	26.95	1.22	1.31	1.05	1.10
9900	3.69	2.93	3.29	0.38	-0.65	27.88	1.18	1.27	1.05	1.09
10000	3.69	2.91	3.28	0.40	-0.72	27.50	1.16	1.23	1.08	1.09
10100	3.69	2.93	3.29	0.39	-0.60	25.92	1.18	1.22	1.09	1.10
10200	3.73	2.94	3.32	0.40	-0.53	24.80	1.23	1.25	1.08	1.12
10300	3.75	2.92	3.32	0.42	-0.52	24.66	1.25	1.27	1.05	1.14
10400	3.75	2.92	3.32	0.42	-0.84	26.07	1.20	1.26	1.01	1.15
10500	3.74	2.92	3.31	0.42	-0.76	27.64	1.13	1.25	1.04	1.16
10600	3.74	2.88	3.29	0.43	-0.74	27.47	1.08	1.23	1.07	1.17
10700	3.72	2.91	3.30	0.41	-1.01	26.10	1.09	1.24	1.09	1.16
10800	3.76	2.91	3.31	0.43	-0.94	24.95	1.11	1.23	1.09	1.17
10900	3.70	2.95	3.31	0.39	-1.30	23.79	1.12	1.21	1.09	1.18
11000	3.70	2.96	3.31	0.38	-0.94	24.20	1.11	1.15	1.10	1.18
11100	3.69	2.97	3.32	0.37	-0.56	25.68	1.08	1.09	1.14	1.21
11200	3.70	2.96	3.31	0.38	-0.57	28.22	1.09	1.15	1.20	1.25
11300	3.70	2.97	3.32	0.37	-0.64	29.43	1.13	1.21	1.25	1.27
11400	3.69	2.96	3.31	0.37	-0.41	28.68	1.10	1.21	1.26	1.27
11500	3.70	2.98	3.33	0.36	-0.52	26.87	1.02	1.17	1.24	1.23
11600	3.67	2.98	3.31	0.35	-0.55	25.63	1.05	1.14	1.20	1.18
11700	3.66	3.01	3.32	0.33	-0.41	25.90	1.09	1.10	1.19	1.16
11800	3.64	3.00	3.31	0.33	-0.07	27.69	1.13	1.01	1.23	1.20
11900	3.67	3.03	3.34	0.32	-0.30	30.69	1.23	1.13	1.29	1.23
12000	3.69	3.08	3.37	0.32	-0.17	33.96	1.34	1.24	1.33	1.24
12100	3.70	3.10	3.39	0.31	-0.25	32.88	1.37	1.29	1.33	1.23
12200	3.66	3.10	3.37	0.29	-0.05	31.48	1.28	1.22	1.28	1.18
12400	3.56	3.06	3.30	0.26	0.13	41.06	1.10	1.10	1.20	1.05
12600	3.61	3.15	3.37	0.24	-0.01	27.28	1.19	1.19	1.30	1.05
12800	3.64	3.34	3.49	0.16	-0.76	21.37	1.41	1.37	1.30	1.02
13000	3.47	3.34	3.40	0.07	-1.28	20.71	1.25	1.24	1.25	1.15

Note: Phase Unbalance shown relative to 90°; Amplitude Unbalance 1/2 of peak-to-peak difference

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Typical Performance Data

TEST CONDITIONS: INPUT POWER =+5 dBm @Temperature = -55°C, Sum port at pad 3

FREQ. (MHz)	TOTAL LOSS			Amp. Unbal. (±dB) See Note	Phase Unbal. (deg) See Note	ISOLATION (dB) Port 1 - Port 2	VSWR			
	Sum-Port 1	Sum-Port 2	Avg				(:1)			
7000	2.83	3.43	3.12	0.30	-0.23	25.00	1.16	1.17	1.10	1.10
7200	2.87	3.36	3.11	0.24	-0.47	24.34	1.12	1.12	1.16	1.16
7400	2.93	3.30	3.11	0.18	-0.28	25.42	1.08	1.09	1.19	1.17
7600	3.02	3.21	3.11	0.10	-0.15	30.05	1.10	1.14	1.09	1.05
7700	3.06	3.17	3.11	0.06	-0.32	30.83	1.11	1.15	1.04	1.05
7800	3.09	3.13	3.11	0.02	-0.46	29.14	1.12	1.15	1.04	1.07
7900	3.12	3.12	3.12	0.00	-0.54	27.91	1.12	1.15	1.09	1.09
8000	3.14	3.11	3.12	0.02	-0.65	27.07	1.10	1.14	1.14	1.11
8100	3.16	3.09	3.12	0.04	-0.54	27.23	1.08	1.12	1.17	1.13
8200	3.19	3.07	3.13	0.07	-0.41	28.62	1.07	1.13	1.15	1.10
8300	3.21	3.04	3.12	0.09	-0.40	29.15	1.09	1.15	1.10	1.08
8400	3.25	3.02	3.13	0.12	-0.43	28.26	1.10	1.15	1.07	1.09
8500	3.28	2.98	3.13	0.15	-0.65	26.39	1.11	1.14	1.06	1.13
8600	3.30	2.99	3.14	0.16	-0.90	24.87	1.13	1.13	1.11	1.14
8700	3.31	2.99	3.15	0.17	-1.05	24.23	1.13	1.11	1.19	1.17
8800	3.31	3.02	3.16	0.15	-1.01	24.05	1.11	1.07	1.25	1.22
8900	3.30	3.01	3.15	0.16	-0.67	24.76	1.09	1.06	1.27	1.23
9000	3.33	2.98	3.15	0.18	-0.42	25.94	1.06	1.06	1.23	1.20
9100	3.36	2.96	3.16	0.21	-0.34	26.13	1.06	1.06	1.16	1.17
9200	3.40	2.93	3.16	0.24	-0.40	25.16	1.09	1.07	1.12	1.16
9300	3.43	2.92	3.17	0.26	-0.56	24.66	1.11	1.07	1.13	1.16
9400	3.45	2.95	3.19	0.26	-0.82	23.61	1.12	1.08	1.19	1.21
9500	3.44	2.95	3.19	0.26	-0.78	22.82	1.10	1.10	1.26	1.29
9600	3.42	2.94	3.17	0.25	-0.74	22.64	1.08	1.11	1.29	1.34
9700	3.43	2.97	3.19	0.24	-0.46	23.11	1.06	1.10	1.29	1.33
9800	3.46	2.96	3.20	0.26	-0.05	23.51	1.05	1.10	1.22	1.31
9900	3.46	2.94	3.19	0.27	-0.01	23.82	1.05	1.09	1.18	1.27
10000	3.49	2.92	3.20	0.29	0.06	24.15	1.08	1.09	1.16	1.23
10100	3.51	2.94	3.22	0.30	0.10	24.32	1.09	1.10	1.18	1.22
10200	3.56	2.95	3.24	0.31	0.08	24.62	1.08	1.12	1.23	1.25
10300	3.54	2.92	3.22	0.32	0.00	24.34	1.05	1.14	1.25	1.27
10400	3.52	2.93	3.21	0.30	-0.04	23.96	1.01	1.15	1.20	1.26
10500	3.56	2.93	3.23	0.33	0.10	23.82	1.04	1.16	1.13	1.25
10600	3.57	2.89	3.22	0.35	0.19	23.45	1.07	1.17	1.08	1.23
10700	3.57	2.92	3.23	0.34	-0.06	23.00	1.09	1.16	1.09	1.24
10800	3.60	2.92	3.25	0.35	0.01	23.17	1.09	1.17	1.11	1.23
10900	3.58	2.95	3.25	0.32	-0.08	23.25	1.09	1.18	1.12	1.21
11000	3.59	2.97	3.27	0.33	0.25	25.09	1.10	1.18	1.11	1.15
11100	3.59	2.98	3.27	0.32	0.51	27.39	1.14	1.21	1.08	1.09
11200	3.61	2.97	3.28	0.33	0.55	27.79	1.20	1.25	1.09	1.15
11300	3.64	2.97	3.29	0.34	0.52	26.41	1.25	1.27	1.13	1.21
11400	3.66	2.97	3.30	0.36	0.29	24.61	1.26	1.27	1.10	1.21
11500	3.63	2.99	3.30	0.33	0.00	23.66	1.24	1.23	1.02	1.17
11600	3.57	2.99	3.27	0.30	-0.11	23.71	1.20	1.18	1.05	1.14
11700	3.56	3.02	3.28	0.28	0.21	25.12	1.19	1.16	1.09	1.10
11800	3.58	3.01	3.29	0.30	0.43	27.60	1.23	1.20	1.13	1.01
11900	3.56	3.04	3.29	0.27	0.18	31.91	1.29	1.23	1.23	1.13
12000	3.57	3.08	3.32	0.25	0.35	37.56	1.33	1.24	1.34	1.24
12100	3.52	3.10	3.30	0.22	0.49	44.85	1.33	1.23	1.37	1.29
12200	3.53	3.11	3.31	0.22	0.85	40.17	1.28	1.18	1.28	1.22
12400	3.47	3.06	3.26	0.21	0.22	28.09	1.20	1.05	1.10	1.10
12600	3.47	3.15	3.31	0.17	-0.18	21.74	1.30	1.05	1.19	1.19
12800	3.37	3.35	3.36	0.03	-0.31	19.50	1.30	1.02	1.41	1.37
13000	3.32	3.35	3.33	0.01	1.01	19.86	1.25	1.15	1.25	1.24

Note: Phase Unbalance shown relative to 90°; Amplitude Unbalance 1/2 of peak-to-peak difference

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2 Way 90° Power Splitter/Combiner

QCH-123+

Typical Performance Data

TEST CONDITIONS: INPUT POWER =+5 dBm @Temperature = -55°C, Sum port at pad 4

FREQ. (MHz)	TOTAL LOSS			Amp. Unbal. (±dB) See Note	Phase Unbal. (deg) See Note	ISOLATION (dB) Port 1 - Port 2	VSWR			
	Sum-Port 1	Sum-Port 2	Avg				(:1) Sum	Port 1	Port 2	Iso
7000	2.91	3.41	3.15	0.25	-0.19	24.99	1.10	1.10	1.17	1.16
7200	3.01	3.34	3.17	0.17	-0.26	24.31	1.16	1.16	1.12	1.12
7400	3.09	3.26	3.17	0.09	-0.27	25.41	1.17	1.19	1.09	1.08
7600	3.12	3.18	3.15	0.04	-0.27	30.02	1.05	1.09	1.14	1.10
7700	3.14	3.15	3.14	0.01	-0.15	30.83	1.05	1.04	1.15	1.11
7800	3.17	3.12	3.14	0.03	-0.07	29.13	1.07	1.04	1.15	1.12
7900	3.22	3.09	3.15	0.06	-0.09	27.90	1.09	1.09	1.15	1.12
8000	3.26	3.08	3.17	0.09	-0.28	27.06	1.11	1.14	1.14	1.10
8100	3.29	3.07	3.18	0.11	-0.20	27.22	1.13	1.17	1.12	1.08
8200	3.31	3.04	3.17	0.14	-0.25	28.60	1.10	1.15	1.13	1.07
8300	3.33	3.02	3.17	0.16	-0.25	29.15	1.08	1.10	1.15	1.09
8400	3.35	3.00	3.17	0.17	-0.11	28.27	1.09	1.07	1.15	1.10
8500	3.39	2.99	3.19	0.20	-0.08	26.38	1.13	1.06	1.14	1.11
8600	3.41	2.96	3.18	0.22	0.05	24.86	1.14	1.11	1.13	1.13
8700	3.45	2.96	3.20	0.25	0.03	24.23	1.17	1.19	1.11	1.13
8800	3.51	2.95	3.22	0.28	-0.10	24.04	1.22	1.25	1.07	1.11
8900	3.52	2.95	3.23	0.28	-0.26	24.75	1.23	1.27	1.06	1.09
9000	3.52	2.93	3.21	0.30	-0.26	25.94	1.20	1.23	1.06	1.06
9100	3.54	2.90	3.21	0.32	-0.29	26.12	1.17	1.16	1.06	1.06
9200	3.54	2.92	3.22	0.31	-0.30	25.15	1.16	1.12	1.07	1.09
9300	3.57	2.90	3.22	0.33	0.07	24.64	1.16	1.13	1.07	1.11
9400	3.61	2.90	3.24	0.35	-0.05	23.59	1.21	1.19	1.08	1.12
9500	3.67	2.93	3.28	0.37	-0.19	22.80	1.29	1.26	1.10	1.10
9600	3.69	2.93	3.29	0.38	-0.13	22.63	1.34	1.29	1.11	1.08
9700	3.73	2.95	3.32	0.39	-0.43	23.10	1.33	1.29	1.10	1.06
9800	3.70	2.95	3.31	0.38	-0.18	23.49	1.31	1.22	1.10	1.05
9900	3.70	2.92	3.29	0.38	-0.29	23.81	1.27	1.18	1.09	1.05
10000	3.71	2.91	3.29	0.39	-0.37	24.14	1.23	1.16	1.09	1.08
10100	3.71	2.90	3.29	0.40	-0.22	24.29	1.22	1.18	1.10	1.09
10200	3.75	2.92	3.32	0.41	0.00	24.61	1.25	1.23	1.12	1.08
10300	3.76	2.93	3.33	0.41	-0.17	24.32	1.27	1.25	1.14	1.05
10400	3.76	2.92	3.32	0.42	-0.29	23.93	1.26	1.20	1.15	1.01
10500	3.76	2.92	3.32	0.41	-0.33	23.79	1.25	1.13	1.16	1.04
10600	3.76	2.93	3.33	0.41	-0.34	23.43	1.23	1.08	1.17	1.07
10700	3.73	2.92	3.31	0.40	-0.29	22.98	1.24	1.09	1.16	1.09
10800	3.77	2.92	3.32	0.42	-0.34	23.14	1.23	1.11	1.17	1.09
10900	3.72	2.95	3.32	0.38	-0.52	23.24	1.21	1.12	1.18	1.09
11000	3.72	2.94	3.31	0.38	-0.37	25.07	1.15	1.11	1.18	1.10
11100	3.71	2.95	3.31	0.38	-0.23	27.36	1.09	1.08	1.21	1.14
11200	3.71	2.95	3.31	0.38	-0.05	27.74	1.15	1.09	1.25	1.20
11300	3.71	2.96	3.32	0.37	-0.10	26.38	1.21	1.13	1.27	1.25
11400	3.70	2.97	3.32	0.36	-0.03	24.59	1.21	1.10	1.27	1.26
11500	3.71	3.00	3.34	0.35	0.14	23.65	1.17	1.02	1.23	1.24
11600	3.68	2.99	3.32	0.35	0.20	23.70	1.14	1.05	1.18	1.20
11700	3.67	2.96	3.30	0.35	0.38	25.11	1.10	1.09	1.16	1.19
11800	3.66	2.99	3.31	0.33	0.67	27.58	1.01	1.13	1.20	1.23
11900	3.69	2.97	3.32	0.36	0.57	31.90	1.13	1.23	1.23	1.29
12000	3.70	3.00	3.34	0.35	0.35	37.53	1.24	1.34	1.24	1.33
12100	3.71	3.01	3.35	0.35	0.13	44.91	1.29	1.37	1.23	1.33
12200	3.68	3.01	3.33	0.33	-0.07	40.08	1.22	1.28	1.18	1.28
12400	3.58	3.02	3.29	0.28	0.36	28.09	1.10	1.10	1.05	1.20
12600	3.63	3.05	3.33	0.28	0.07	21.71	1.19	1.19	1.05	1.30
12800	3.66	3.21	3.43	0.22	-1.13	19.48	1.37	1.41	1.02	1.30
13000	3.49	3.29	3.39	0.10	-1.69	19.84	1.24	1.25	1.15	1.25

Note: Phase Unbalance shown relative to 90°; Amplitude Unbalance 1/2 of peak-to-peak difference

Notes

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2 Way 90° Power Splitter/Combiner

QCH-123+

Typical Performance Data

TEST CONDITIONS: INPUT POWER = +5 dBm @Temperature = +25°C, Sum port at pad 1

FREQ.	TOTAL LOSS			Amp. Unbal.	Phase Unbal.	ISOLATION	VSWR			
(MHz)	(dB)			(±dB)	(deg)	(dB)	(:1)			
	Sum-Port 1	Sum-Port 2	Avg	See Note	See Note	Port 1 - Port 2	Sum	Port 1	Port 2	Iso
7000	2.77	3.40	3.07	0.32	0.81	23.47	1.16	1.14	1.14	1.17
7200	2.83	3.31	3.06	0.24	0.72	24.72	1.14	1.12	1.12	1.15
7400	2.90	3.23	3.06	0.17	0.64	26.53	1.11	1.10	1.11	1.13
7600	2.96	3.16	3.06	0.10	0.63	28.33	1.09	1.08	1.10	1.10
7700	2.99	3.15	3.07	0.08	0.58	28.96	1.09	1.07	1.09	1.09
7800	3.02	3.11	3.06	0.05	0.66	29.54	1.08	1.07	1.07	1.08
7900	3.05	3.08	3.06	0.02	0.61	30.04	1.08	1.06	1.06	1.08
8000	3.08	3.06	3.07	0.02	0.58	30.31	1.08	1.06	1.06	1.08
8100	3.11	3.03	3.07	0.04	0.53	30.20	1.07	1.06	1.07	1.08
8200	3.13	3.01	3.07	0.06	0.54	29.87	1.06	1.06	1.09	1.10
8300	3.16	2.99	3.07	0.08	0.49	28.99	1.06	1.06	1.11	1.11
8400	3.18	2.98	3.08	0.10	0.53	28.38	1.06	1.06	1.12	1.13
8500	3.20	2.97	3.08	0.12	0.52	27.79	1.05	1.07	1.13	1.15
8600	3.23	2.95	3.09	0.14	0.58	27.48	1.06	1.07	1.13	1.15
8700	3.25	2.95	3.10	0.15	0.64	27.22	1.06	1.07	1.13	1.15
8800	3.28	2.92	3.10	0.18	0.58	26.76	1.07	1.07	1.14	1.14
8900	3.29	2.92	3.10	0.19	0.50	26.26	1.08	1.08	1.15	1.14
9000	3.33	2.91	3.11	0.21	0.49	25.71	1.09	1.09	1.17	1.15
9100	3.34	2.91	3.12	0.21	0.32	24.90	1.09	1.10	1.19	1.16
9200	3.36	2.92	3.13	0.22	0.40	24.49	1.10	1.10	1.20	1.18
9300	3.37	2.92	3.14	0.23	0.43	23.92	1.10	1.10	1.22	1.20
9400	3.39	2.92	3.15	0.23	0.48	23.71	1.10	1.10	1.21	1.21
9500	3.41	2.91	3.15	0.25	0.61	23.68	1.10	1.09	1.22	1.21
9600	3.43	2.90	3.16	0.26	0.64	23.57	1.11	1.09	1.21	1.21
9700	3.43	2.91	3.16	0.26	0.63	23.52	1.11	1.09	1.21	1.20
9800	3.45	2.91	3.17	0.27	0.74	23.53	1.12	1.09	1.21	1.20
9900	3.46	2.90	3.17	0.28	0.75	23.57	1.12	1.09	1.21	1.19
10000	3.48	2.92	3.19	0.28	0.93	23.90	1.13	1.08	1.21	1.18
10100	3.48	2.91	3.19	0.29	0.95	23.98	1.13	1.08	1.20	1.16
10200	3.51	2.91	3.20	0.30	1.12	24.54	1.14	1.09	1.20	1.14
10300	3.51	2.92	3.20	0.30	1.11	24.72	1.14	1.09	1.20	1.13
10400	3.52	2.92	3.21	0.30	1.06	24.81	1.15	1.10	1.19	1.12
10500	3.53	2.92	3.21	0.31	1.29	25.15	1.15	1.10	1.19	1.12
10600	3.52	2.93	3.21	0.30	1.34	25.49	1.15	1.11	1.18	1.12
10700	3.56	2.91	3.22	0.32	1.50	26.40	1.14	1.11	1.17	1.11
10800	3.53	2.92	3.21	0.31	1.39	27.18	1.14	1.12	1.15	1.10
10900	3.55	2.93	3.23	0.31	1.61	28.19	1.14	1.13	1.15	1.09
11000	3.54	2.91	3.21	0.32	1.63	29.17	1.13	1.13	1.13	1.08
11100	3.54	2.92	3.22	0.32	1.68	30.01	1.13	1.14	1.12	1.07
11200	3.54	2.92	3.22	0.31	1.80	30.99	1.12	1.14	1.11	1.08
11300	3.55	2.91	3.22	0.32	1.89	32.85	1.11	1.14	1.10	1.08
11400	3.55	2.91	3.22	0.32	1.91	35.09	1.10	1.14	1.08	1.08
11500	3.54	2.91	3.21	0.32	1.88	39.18	1.09	1.15	1.05	1.09
11600	3.53	2.92	3.21	0.31	1.94	44.74	1.09	1.16	1.02	1.10
11700	3.52	2.91	3.20	0.31	1.83	43.12	1.08	1.16	1.02	1.11
11800	3.52	2.93	3.21	0.30	1.77	38.70	1.07	1.16	1.03	1.12
11900	3.50	2.92	3.20	0.29	1.65	36.32	1.06	1.15	1.02	1.11
12000	3.49	2.94	3.21	0.28	1.53	34.22	1.04	1.15	1.03	1.11
12100	3.48	2.97	3.22	0.26	1.55	32.23	1.03	1.15	1.05	1.11
12200	3.47	2.99	3.22	0.24	1.46	30.27	1.01	1.16	1.08	1.12
12400	3.43	3.05	3.24	0.19	1.33	26.74	1.01	1.17	1.16	1.18
12600	3.37	3.12	3.24	0.13	1.31	24.29	1.06	1.18	1.21	1.23
12800	3.36	3.21	3.28	0.09	1.49	22.63	1.13	1.21	1.18	1.23
13000	3.34	3.27	3.30	0.04	1.29	21.31	1.19	1.25	1.16	1.23

Note: Phase Unbalance shown relative to 90°; Amplitude Unbalance 1/2 of peak-to-peak difference

Notes

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2 Way 90° Power Splitter/Combiner

QCH-123+

Typical Performance Data

TEST CONDITIONS: INPUT POWER =+5 dBm @Temperature = +25°C, Sum port at pad 2

FREQ. (MHz)	TOTAL LOSS			Amp. Unbal. (±dB) See Note	Phase Unbal. (deg) See Note	ISOLATION (dB) Port 1 - Port 2	VSWR			
	Sum-Port 1	Sum-Port 2	Avg				(:1)			
7000	2.78	3.40	3.08	0.31	-0.46	23.47	1.17	1.14	1.14	1.16
7200	2.84	3.31	3.07	0.24	-0.49	24.72	1.15	1.12	1.12	1.14
7400	2.91	3.23	3.07	0.16	-0.58	26.52	1.13	1.11	1.10	1.11
7600	2.96	3.16	3.06	0.10	-0.67	28.33	1.10	1.10	1.08	1.09
7700	2.99	3.13	3.06	0.07	-0.60	28.96	1.09	1.09	1.07	1.09
7800	3.02	3.10	3.06	0.04	-0.63	29.55	1.08	1.07	1.07	1.08
7900	3.04	3.08	3.06	0.02	-0.64	30.03	1.08	1.06	1.06	1.08
8000	3.08	3.05	3.06	0.02	-0.65	30.31	1.08	1.06	1.06	1.08
8100	3.10	3.03	3.06	0.04	-0.65	30.19	1.08	1.07	1.06	1.07
8200	3.14	3.01	3.07	0.06	-0.69	29.86	1.10	1.09	1.06	1.06
8300	3.17	2.99	3.08	0.09	-0.69	28.99	1.11	1.11	1.06	1.06
8400	3.20	2.98	3.09	0.11	-0.75	28.38	1.13	1.12	1.06	1.06
8500	3.23	2.97	3.10	0.13	-0.81	27.79	1.15	1.13	1.07	1.05
8600	3.25	2.95	3.10	0.15	-0.81	27.48	1.15	1.13	1.07	1.06
8700	3.27	2.94	3.10	0.17	-0.83	27.21	1.15	1.13	1.07	1.06
8800	3.30	2.93	3.11	0.19	-0.83	26.75	1.14	1.14	1.07	1.07
8900	3.32	2.92	3.12	0.20	-0.87	26.25	1.14	1.15	1.08	1.08
9000	3.36	2.92	3.13	0.22	-0.91	25.70	1.15	1.17	1.09	1.09
9100	3.38	2.90	3.13	0.24	-0.98	24.90	1.16	1.19	1.10	1.09
9200	3.40	2.92	3.15	0.25	-0.96	24.48	1.18	1.20	1.10	1.10
9300	3.44	2.92	3.17	0.26	-1.03	23.92	1.20	1.22	1.10	1.10
9400	3.45	2.92	3.18	0.27	-1.08	23.69	1.21	1.21	1.10	1.10
9500	3.46	2.92	3.18	0.28	-1.09	23.68	1.21	1.22	1.09	1.10
9600	3.49	2.92	3.20	0.29	-1.04	23.56	1.21	1.21	1.09	1.11
9700	3.49	2.91	3.19	0.30	-1.11	23.51	1.20	1.21	1.09	1.11
9800	3.52	2.92	3.21	0.30	-1.06	23.53	1.20	1.21	1.09	1.12
9900	3.51	2.90	3.19	0.31	-1.04	23.57	1.19	1.21	1.09	1.12
10000	3.53	2.90	3.20	0.32	-1.03	23.90	1.18	1.21	1.08	1.13
10100	3.52	2.90	3.20	0.32	-1.07	23.97	1.16	1.20	1.08	1.13
10200	3.53	2.89	3.20	0.32	-1.02	24.53	1.14	1.20	1.09	1.14
10300	3.54	2.88	3.20	0.33	-1.10	24.72	1.13	1.20	1.09	1.14
10400	3.54	2.88	3.20	0.33	-0.94	24.81	1.12	1.19	1.10	1.15
10500	3.55	2.89	3.21	0.33	-1.05	25.14	1.12	1.19	1.10	1.15
10600	3.53	2.88	3.19	0.33	-1.03	25.48	1.12	1.18	1.11	1.15
10700	3.53	2.90	3.20	0.33	-0.87	26.39	1.11	1.17	1.11	1.14
10800	3.55	2.88	3.20	0.33	-0.96	27.18	1.10	1.15	1.12	1.14
10900	3.52	2.90	3.20	0.31	-0.89	28.17	1.09	1.15	1.13	1.14
11000	3.54	2.91	3.21	0.31	-0.75	29.17	1.08	1.13	1.13	1.13
11100	3.53	2.91	3.21	0.31	-0.68	30.00	1.07	1.12	1.14	1.13
11200	3.53	2.93	3.22	0.31	-0.67	30.98	1.08	1.11	1.14	1.12
11300	3.54	2.93	3.22	0.31	-0.62	32.86	1.08	1.10	1.14	1.11
11400	3.51	2.93	3.21	0.30	-0.59	35.11	1.08	1.08	1.14	1.10
11500	3.52	2.93	3.21	0.30	-0.49	39.21	1.09	1.05	1.15	1.09
11600	3.51	2.94	3.22	0.29	-0.50	44.86	1.10	1.02	1.16	1.09
11700	3.51	2.93	3.21	0.29	-0.51	43.15	1.11	1.02	1.16	1.08
11800	3.51	2.97	3.23	0.28	-0.54	38.79	1.12	1.03	1.16	1.07
11900	3.50	2.97	3.23	0.27	-0.50	36.33	1.11	1.02	1.15	1.06
12000	3.50	2.99	3.24	0.26	-0.51	34.20	1.11	1.03	1.15	1.04
12100	3.48	2.99	3.23	0.24	-0.62	32.22	1.11	1.05	1.15	1.03
12200	3.46	3.02	3.23	0.22	-0.65	30.27	1.12	1.08	1.16	1.01
12400	3.46	3.10	3.28	0.18	-0.80	26.74	1.18	1.16	1.17	1.01
12600	3.46	3.18	3.32	0.14	-0.78	24.30	1.23	1.21	1.18	1.06
12800	3.40	3.23	3.31	0.09	-0.95	22.64	1.23	1.18	1.21	1.13
13000	3.33	3.30	3.31	0.02	-0.98	21.32	1.23	1.16	1.25	1.19

Note: Phase Unbalance shown relative to 90°; Amplitude Unbalance 1/2 of peak-to-peak difference

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2 Way 90° Power Splitter/Combiner

QCH-123+

Typical Performance Data

TEST CONDITIONS: INPUT POWER =+5 dBm @Temperature = +25°C, Sum port at pad 3

FREQ. (MHz)	TOTAL LOSS			Amp. Unbal. (±dB) See Note	Phase Unbal. (deg) See Note	ISOLATION (dB) Port 1 - Port 2	VSWR			
	Sum-Port 1	Sum-Port 2	Avg				(:1)			
7000	2.76	3.40	3.07	0.32	-0.67	24.99	1.14	1.16	1.17	1.14
7200	2.82	3.31	3.06	0.24	-0.77	26.75	1.12	1.14	1.15	1.12
7400	2.89	3.24	3.06	0.17	-0.86	27.87	1.10	1.11	1.13	1.11
7600	2.95	3.17	3.06	0.10	-0.93	29.15	1.08	1.09	1.10	1.10
7700	2.98	3.14	3.06	0.07	-0.95	30.35	1.07	1.09	1.09	1.09
7800	3.01	3.11	3.06	0.04	-0.96	31.81	1.07	1.08	1.08	1.07
7900	3.03	3.08	3.05	0.02	-1.00	33.01	1.06	1.08	1.08	1.06
8000	3.07	3.06	3.06	0.02	-1.06	32.67	1.06	1.08	1.08	1.06
8100	3.09	3.04	3.06	0.04	-1.08	31.27	1.06	1.07	1.08	1.07
8200	3.12	3.02	3.07	0.06	-1.12	29.98	1.06	1.06	1.10	1.09
8300	3.14	3.00	3.07	0.08	-1.18	28.96	1.06	1.06	1.11	1.11
8400	3.16	2.98	3.07	0.10	-1.21	28.35	1.06	1.06	1.13	1.12
8500	3.19	2.97	3.08	0.12	-1.19	27.96	1.07	1.05	1.15	1.13
8600	3.21	2.96	3.08	0.14	-1.16	27.78	1.07	1.06	1.15	1.13
8700	3.24	2.95	3.09	0.16	-1.17	27.34	1.07	1.06	1.15	1.13
8800	3.26	2.94	3.10	0.18	-1.19	26.76	1.07	1.07	1.14	1.14
8900	3.28	2.92	3.10	0.19	-1.26	25.84	1.08	1.08	1.14	1.15
9000	3.31	2.92	3.11	0.21	-1.34	25.01	1.09	1.09	1.15	1.17
9100	3.32	2.91	3.11	0.22	-1.42	24.17	1.10	1.09	1.16	1.19
9200	3.34	2.92	3.12	0.23	-1.45	23.77	1.10	1.10	1.18	1.20
9300	3.35	2.93	3.13	0.23	-1.48	23.57	1.10	1.10	1.20	1.22
9400	3.37	2.92	3.14	0.24	-1.36	23.51	1.10	1.10	1.21	1.21
9500	3.38	2.92	3.14	0.25	-1.42	23.46	1.09	1.10	1.21	1.22
9600	3.41	2.92	3.16	0.26	-1.32	23.55	1.09	1.11	1.21	1.21
9700	3.42	2.91	3.16	0.26	-1.30	23.38	1.09	1.11	1.20	1.21
9800	3.44	2.92	3.17	0.27	-1.18	23.35	1.09	1.12	1.20	1.21
9900	3.45	2.91	3.17	0.28	-1.15	23.26	1.09	1.12	1.19	1.21
10000	3.47	2.90	3.18	0.29	-1.07	23.33	1.08	1.13	1.18	1.21
10100	3.47	2.91	3.18	0.30	-1.06	23.37	1.08	1.13	1.16	1.20
10200	3.50	2.90	3.19	0.31	-0.98	23.51	1.09	1.14	1.14	1.20
10300	3.50	2.89	3.18	0.32	-1.01	23.43	1.09	1.14	1.13	1.20
10400	3.51	2.89	3.19	0.32	-0.97	23.50	1.10	1.15	1.12	1.19
10500	3.52	2.90	3.20	0.32	-0.93	23.70	1.10	1.15	1.12	1.19
10600	3.51	2.89	3.19	0.32	-0.81	24.01	1.11	1.15	1.12	1.18
10700	3.54	2.90	3.21	0.33	-0.92	24.55	1.11	1.14	1.11	1.17
10800	3.52	2.89	3.19	0.32	-0.91	24.95	1.12	1.14	1.10	1.15
10900	3.53	2.91	3.21	0.32	-0.81	25.33	1.13	1.14	1.09	1.15
11000	3.53	2.93	3.22	0.32	-0.82	26.03	1.13	1.13	1.08	1.13
11100	3.52	2.92	3.21	0.32	-0.73	26.73	1.14	1.13	1.07	1.12
11200	3.52	2.92	3.21	0.31	-0.60	27.41	1.14	1.12	1.08	1.11
11300	3.53	2.93	3.22	0.31	-0.55	28.32	1.14	1.11	1.08	1.10
11400	3.53	2.94	3.22	0.31	-0.50	29.77	1.14	1.10	1.08	1.08
11500	3.52	2.94	3.22	0.31	-0.52	31.35	1.15	1.09	1.09	1.05
11600	3.51	2.94	3.22	0.30	-0.44	33.05	1.16	1.09	1.10	1.02
11700	3.51	2.93	3.21	0.30	-0.54	34.34	1.16	1.08	1.11	1.02
11800	3.50	2.96	3.22	0.28	-0.64	34.10	1.16	1.07	1.12	1.03
11900	3.47	2.97	3.21	0.27	-0.65	32.96	1.15	1.06	1.11	1.02
12000	3.47	2.98	3.22	0.25	-0.68	31.35	1.15	1.04	1.11	1.03
12100	3.46	2.99	3.22	0.25	-0.76	28.76	1.15	1.03	1.11	1.05
12200	3.45	3.02	3.23	0.23	-0.84	26.75	1.16	1.01	1.12	1.08
12400	3.40	3.10	3.25	0.16	-0.99	23.91	1.17	1.01	1.18	1.16
12600	3.34	3.17	3.25	0.10	-0.75	22.60	1.18	1.06	1.23	1.21
12800	3.34	3.23	3.28	0.07	-0.58	22.47	1.21	1.13	1.23	1.18
13000	3.31	3.30	3.30	0.02	-0.84	21.42	1.25	1.19	1.23	1.16

Note: Phase Unbalance shown relative to 90°; Amplitude Unbalance 1/2 of peak-to-peak difference

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2 Way 90° Power Splitter/Combiner

QCH-123+

Typical Performance Data

TEST CONDITIONS: INPUT POWER = +5 dBm @Temperature = +25°C, Sum port at pad 4

FREQ. (MHz)	TOTAL LOSS			Amp. Unbal. (±dB) See Note	Phase Unbal. (deg) See Note	ISOLATION (dB) Port 1 - Port 2	VSWR			
	Sum-Port 1	Sum-Port 2	Avg				(:1)			
7000	2.78	3.40	3.08	0.32	1.02	24.97	1.14	1.17	1.16	1.14
7200	2.85	3.30	3.07	0.24	1.02	26.75	1.12	1.15	1.14	1.12
7400	2.91	3.22	3.06	0.16	0.94	27.85	1.11	1.13	1.11	1.10
7600	2.97	3.15	3.06	0.10	0.90	29.14	1.10	1.10	1.09	1.08
7700	2.99	3.13	3.06	0.08	0.93	30.34	1.09	1.09	1.09	1.07
7800	3.02	3.10	3.06	0.05	1.01	31.79	1.07	1.08	1.08	1.07
7900	3.05	3.07	3.06	0.02	0.99	32.99	1.06	1.08	1.08	1.06
8000	3.08	3.04	3.06	0.02	0.99	32.65	1.06	1.08	1.08	1.06
8100	3.11	3.02	3.06	0.04	0.97	31.26	1.07	1.08	1.07	1.06
8200	3.14	3.00	3.07	0.06	0.97	29.97	1.09	1.10	1.06	1.06
8300	3.18	2.98	3.08	0.09	0.98	28.94	1.11	1.11	1.06	1.06
8400	3.20	2.97	3.08	0.11	0.98	28.32	1.12	1.13	1.06	1.06
8500	3.23	2.95	3.09	0.13	0.92	27.94	1.13	1.15	1.05	1.07
8600	3.26	2.94	3.10	0.15	0.93	27.74	1.13	1.15	1.06	1.07
8700	3.28	2.94	3.11	0.16	0.98	27.32	1.13	1.15	1.06	1.07
8800	3.30	2.91	3.10	0.19	0.95	26.73	1.14	1.14	1.07	1.07
8900	3.32	2.90	3.10	0.20	0.88	25.82	1.15	1.14	1.08	1.08
9000	3.36	2.89	3.12	0.23	0.91	24.99	1.17	1.15	1.09	1.09
9100	3.38	2.90	3.13	0.23	0.75	24.14	1.19	1.16	1.09	1.10
9200	3.41	2.91	3.15	0.24	0.90	23.74	1.20	1.18	1.10	1.10
9300	3.44	2.90	3.16	0.26	0.89	23.54	1.22	1.20	1.10	1.10
9400	3.45	2.91	3.17	0.27	0.77	23.48	1.21	1.21	1.10	1.10
9500	3.46	2.89	3.17	0.28	0.94	23.43	1.22	1.21	1.10	1.09
9600	3.49	2.88	3.17	0.30	0.92	23.53	1.21	1.21	1.11	1.09
9700	3.50	2.90	3.19	0.29	0.82	23.36	1.21	1.20	1.11	1.09
9800	3.53	2.90	3.20	0.31	0.89	23.33	1.21	1.20	1.12	1.09
9900	3.52	2.90	3.20	0.31	0.87	23.23	1.21	1.19	1.12	1.09
10000	3.53	2.90	3.20	0.31	0.97	23.32	1.21	1.18	1.13	1.08
10100	3.54	2.91	3.21	0.31	0.93	23.35	1.20	1.16	1.13	1.08
10200	3.54	2.91	3.21	0.31	1.10	23.47	1.20	1.14	1.14	1.09
10300	3.54	2.90	3.21	0.31	1.01	23.41	1.20	1.13	1.14	1.09
10400	3.54	2.91	3.21	0.31	1.09	23.47	1.19	1.12	1.15	1.10
10500	3.56	2.91	3.22	0.32	1.18	23.67	1.19	1.12	1.15	1.10
10600	3.54	2.92	3.22	0.30	1.14	23.98	1.18	1.12	1.15	1.11
10700	3.54	2.90	3.21	0.31	1.57	24.53	1.17	1.11	1.14	1.11
10800	3.54	2.90	3.21	0.32	1.36	24.93	1.15	1.10	1.14	1.12
10900	3.53	2.92	3.21	0.30	1.56	25.30	1.15	1.09	1.14	1.13
11000	3.55	2.89	3.21	0.32	1.71	26.00	1.13	1.08	1.13	1.13
11100	3.54	2.90	3.21	0.31	1.75	26.69	1.12	1.07	1.13	1.14
11200	3.53	2.90	3.20	0.31	1.76	27.39	1.11	1.08	1.12	1.14
11300	3.53	2.89	3.20	0.32	1.85	28.29	1.10	1.08	1.11	1.14
11400	3.52	2.90	3.20	0.30	1.83	29.73	1.08	1.08	1.10	1.14
11500	3.53	2.89	3.20	0.31	1.94	31.32	1.05	1.09	1.09	1.15
11600	3.51	2.90	3.19	0.30	1.89	33.04	1.02	1.10	1.09	1.16
11700	3.51	2.90	3.19	0.30	1.88	34.31	1.02	1.11	1.08	1.16
11800	3.51	2.90	3.19	0.29	1.89	34.06	1.03	1.12	1.07	1.16
11900	3.50	2.89	3.18	0.29	1.82	32.91	1.02	1.11	1.06	1.15
12000	3.48	2.91	3.19	0.28	1.71	31.33	1.03	1.11	1.04	1.15
12100	3.46	2.95	3.20	0.25	1.72	28.74	1.05	1.11	1.03	1.15
12200	3.46	2.97	3.21	0.24	1.67	26.72	1.08	1.12	1.01	1.16
12400	3.46	3.02	3.23	0.21	1.55	23.89	1.16	1.18	1.01	1.17
12600	3.45	3.09	3.27	0.17	1.32	22.57	1.21	1.23	1.06	1.18
12800	3.40	3.17	3.28	0.10	1.15	22.43	1.18	1.23	1.13	1.21
13000	3.32	3.24	3.28	0.03	1.16	21.39	1.16	1.23	1.19	1.25

Note: Phase Unbalance shown relative to 90°; Amplitude Unbalance 1/2 of peak-to-peak difference

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2 Way 90° Power Splitter/Combiner

QCH-123+

Typical Performance Data

TEST CONDITIONS: INPUT POWER =+5 dBm @Temperature = +105°C, Sum port at pad 1

FREQ. (MHz)	TOTAL LOSS			Amp. Unbal. (±dB) See Note	Phase Unbal. (deg) See Note	ISOLATION (dB) Port 1 - Port 2	VSWR			
	Sum-Port 1	Sum-Port 2	Avg				(:1)			
7000	2.79	3.51	3.14	0.37	0.35	21.66	1.20	1.19	1.25	1.24
7200	2.87	3.39	3.12	0.27	0.29	23.27	1.20	1.17	1.15	1.15
7400	2.94	3.30	3.12	0.19	-0.04	25.22	1.17	1.14	1.07	1.11
7600	2.98	3.26	3.12	0.14	-0.20	26.20	1.12	1.09	1.14	1.14
7700	3.00	3.24	3.12	0.12	-0.10	26.14	1.10	1.07	1.18	1.17
7800	3.03	3.20	3.11	0.09	0.02	26.02	1.10	1.06	1.18	1.18
7900	3.08	3.16	3.12	0.05	0.04	26.86	1.10	1.06	1.14	1.15
8000	3.11	3.14	3.12	0.03	-0.11	28.68	1.10	1.06	1.08	1.11
8100	3.13	3.10	3.11	0.02	-0.13	31.97	1.08	1.05	1.02	1.07
8200	3.16	3.09	3.12	0.04	-0.22	36.94	1.05	1.03	1.03	1.04
8300	3.16	3.07	3.11	0.05	-0.32	34.91	1.01	1.01	1.07	1.07
8400	3.19	3.07	3.13	0.06	-0.28	31.20	1.02	1.04	1.15	1.15
8500	3.21	3.06	3.13	0.08	-0.32	29.42	1.04	1.06	1.20	1.22
8600	3.23	3.04	3.13	0.09	-0.14	29.66	1.05	1.08	1.19	1.22
8700	3.25	3.03	3.14	0.11	-0.07	31.99	1.04	1.07	1.14	1.17
8800	3.29	2.99	3.14	0.15	-0.08	38.08	1.02	1.05	1.07	1.09
8900	3.31	2.98	3.14	0.16	-0.14	36.11	1.03	1.04	1.05	1.02
9000	3.36	2.97	3.16	0.20	-0.14	30.01	1.05	1.07	1.08	1.06
9100	3.39	2.97	3.17	0.21	-0.47	26.91	1.07	1.10	1.12	1.14
9200	3.39	2.99	3.19	0.20	-0.57	25.42	1.09	1.13	1.19	1.22
9300	3.40	3.00	3.20	0.20	-0.42	25.55	1.10	1.13	1.25	1.27
9400	3.40	3.00	3.20	0.20	-0.20	26.52	1.09	1.11	1.25	1.27
9500	3.42	3.00	3.20	0.21	-0.08	28.91	1.07	1.07	1.20	1.19
9600	3.44	2.95	3.19	0.24	-0.01	31.66	1.06	1.05	1.13	1.09
9700	3.47	2.97	3.21	0.25	-0.03	29.83	1.07	1.07	1.12	1.03
9800	3.53	2.97	3.24	0.28	0.21	27.12	1.11	1.11	1.14	1.08
9900	3.53	2.97	3.24	0.28	-0.21	25.05	1.12	1.12	1.16	1.12
10000	3.55	2.99	3.26	0.28	-0.19	24.27	1.14	1.12	1.21	1.17
10100	3.54	3.00	3.26	0.27	-0.18	24.22	1.14	1.09	1.24	1.19
10200	3.58	3.00	3.28	0.29	0.01	25.42	1.14	1.07	1.24	1.16
10300	3.55	3.00	3.27	0.27	0.06	26.68	1.14	1.08	1.22	1.11
10400	3.56	2.96	3.25	0.30	0.34	28.27	1.14	1.13	1.19	1.05
10500	3.59	2.98	3.27	0.30	0.33	28.22	1.14	1.16	1.16	1.01
10600	3.59	2.99	3.28	0.30	0.35	27.59	1.15	1.17	1.15	1.03
10700	3.61	3.00	3.29	0.30	0.38	26.85	1.16	1.15	1.15	1.06
10800	3.59	2.99	3.28	0.30	0.17	26.44	1.16	1.14	1.15	1.07
10900	3.60	3.02	3.30	0.29	0.47	27.55	1.17	1.15	1.16	1.09
11000	3.60	3.00	3.29	0.30	0.42	29.18	1.16	1.16	1.16	1.10
11100	3.59	3.02	3.30	0.28	0.34	31.20	1.16	1.18	1.17	1.10
11200	3.58	3.01	3.29	0.28	0.72	33.78	1.14	1.20	1.18	1.10
11300	3.60	3.02	3.30	0.29	0.67	36.27	1.12	1.20	1.16	1.08
11400	3.58	3.02	3.29	0.27	0.57	38.04	1.10	1.19	1.14	1.07
11500	3.58	3.02	3.29	0.28	1.06	38.60	1.10	1.20	1.09	1.07
11600	3.57	2.98	3.26	0.29	0.83	38.95	1.10	1.20	1.04	1.10
11700	3.58	3.01	3.29	0.29	0.46	37.66	1.10	1.21	1.03	1.13
11800	3.57	3.02	3.29	0.27	0.60	36.68	1.11	1.20	1.04	1.14
11900	3.58	3.02	3.29	0.28	0.50	34.97	1.09	1.19	1.04	1.12
12000	3.55	3.01	3.27	0.26	0.36	35.05	1.07	1.18	1.06	1.13
12100	3.54	3.03	3.28	0.25	0.58	30.79	1.06	1.19	1.09	1.16
12200	3.56	3.08	3.31	0.24	0.30	27.88	1.03	1.21	1.09	1.18
12400	3.51	3.11	3.31	0.20	-0.36	23.54	1.02	1.24	1.20	1.28
12600	3.41	3.22	3.31	0.09	-0.11	22.28	1.06	1.18	1.28	1.32
12800	3.43	3.26	3.34	0.08	0.40	23.58	1.18	1.22	1.09	1.10
13000	3.45	3.32	3.38	0.06	-0.46	22.94	1.24	1.32	1.04	1.13

Note: Phase Unbalance shown relative to 90°; Amplitude Unbalance 1/2 of peak-to-peak difference

Notes

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2 Way 90° Power Splitter/Combiner

QCH-123+

Typical Performance Data

TEST CONDITIONS: INPUT POWER =+5 dBm @Temperature = +105°C, Sum port at pad 2

FREQ. (MHz)	TOTAL LOSS			Amp. Unbal. (±dB) See Note	Phase Unbal. (deg) See Note	ISOLATION (dB) Port 1 - Port 2	VSWR			
	Sum-Port 1	Sum-Port 2	Avg				(:1) Sum	Port 1	Port 2	Iso
7000	2.80	3.52	3.15	0.35	0.64	21.66	1.24	1.25	1.19	1.20
7200	2.85	3.39	3.11	0.27	0.49	23.27	1.15	1.15	1.17	1.20
7400	2.91	3.31	3.11	0.20	0.35	25.20	1.11	1.07	1.14	1.17
7600	2.99	3.25	3.12	0.13	0.47	26.25	1.14	1.14	1.09	1.12
7700	3.03	3.24	3.13	0.10	0.38	26.19	1.17	1.18	1.07	1.10
7800	3.07	3.19	3.13	0.06	0.38	26.04	1.18	1.18	1.06	1.10
7900	3.10	3.17	3.13	0.04	0.36	26.87	1.15	1.14	1.06	1.10
8000	3.11	3.14	3.12	0.02	0.25	28.71	1.11	1.08	1.06	1.10
8100	3.13	3.10	3.11	0.02	0.20	32.03	1.07	1.02	1.05	1.08
8200	3.15	3.09	3.12	0.04	0.26	36.80	1.04	1.03	1.03	1.05
8300	3.18	3.08	3.13	0.05	0.29	34.74	1.07	1.07	1.01	1.01
8400	3.23	3.07	3.15	0.08	0.34	31.17	1.15	1.15	1.04	1.02
8500	3.27	3.07	3.17	0.11	0.23	29.37	1.22	1.20	1.06	1.04
8600	3.30	3.06	3.18	0.13	0.17	29.51	1.22	1.19	1.08	1.05
8700	3.31	3.04	3.17	0.14	0.29	31.80	1.17	1.14	1.07	1.04
8800	3.32	3.01	3.16	0.16	0.35	37.84	1.09	1.07	1.05	1.02
8900	3.32	2.98	3.15	0.18	0.31	35.78	1.02	1.05	1.04	1.03
9000	3.37	2.98	3.17	0.20	0.39	29.89	1.06	1.08	1.07	1.05
9100	3.41	2.99	3.19	0.22	0.36	26.89	1.14	1.12	1.10	1.07
9200	3.46	2.99	3.22	0.24	0.31	25.41	1.22	1.19	1.13	1.09
9300	3.50	3.00	3.24	0.26	0.17	25.48	1.27	1.25	1.13	1.10
9400	3.51	3.02	3.26	0.25	0.14	26.40	1.27	1.25	1.11	1.09
9500	3.51	2.99	3.24	0.27	0.08	28.79	1.19	1.20	1.07	1.07
9600	3.49	2.97	3.22	0.27	0.08	31.56	1.09	1.13	1.05	1.06
9700	3.49	2.98	3.23	0.26	0.30	29.71	1.03	1.12	1.07	1.07
9800	3.54	2.96	3.24	0.30	0.50	27.06	1.08	1.14	1.11	1.11
9900	3.58	2.96	3.26	0.32	0.41	25.05	1.12	1.16	1.12	1.12
10000	3.60	2.97	3.27	0.32	0.35	24.29	1.17	1.21	1.12	1.14
10100	3.60	2.98	3.28	0.32	0.33	24.20	1.19	1.24	1.09	1.14
10200	3.63	2.97	3.29	0.34	0.11	25.38	1.16	1.24	1.07	1.14
10300	3.60	2.95	3.26	0.33	0.02	26.64	1.11	1.22	1.08	1.14
10400	3.58	3.00	3.28	0.30	0.12	28.27	1.05	1.19	1.13	1.14
10500	3.58	3.00	3.28	0.30	0.01	28.17	1.01	1.16	1.16	1.14
10600	3.57	3.00	3.28	0.29	0.16	27.52	1.03	1.15	1.17	1.15
10700	3.58	2.98	3.27	0.31	0.41	26.84	1.06	1.15	1.15	1.16
10800	3.57	3.00	3.28	0.30	0.10	26.48	1.07	1.15	1.14	1.16
10900	3.57	3.02	3.29	0.28	0.58	27.55	1.09	1.16	1.15	1.17
11000	3.59	3.00	3.28	0.30	0.73	29.18	1.10	1.16	1.16	1.16
11100	3.61	3.03	3.31	0.30	0.85	31.24	1.10	1.17	1.18	1.16
11200	3.57	3.04	3.30	0.28	0.71	33.87	1.10	1.18	1.20	1.14
11300	3.58	3.03	3.30	0.29	0.79	36.35	1.08	1.16	1.20	1.12
11400	3.59	3.01	3.29	0.30	0.79	38.04	1.07	1.14	1.19	1.10
11500	3.57	3.04	3.30	0.28	0.65	38.48	1.07	1.09	1.20	1.10
11600	3.57	3.05	3.30	0.27	0.70	38.91	1.10	1.04	1.20	1.10
11700	3.56	3.07	3.31	0.26	0.84	37.60	1.13	1.03	1.21	1.10
11800	3.57	3.09	3.32	0.25	0.74	36.58	1.14	1.04	1.20	1.11
11900	3.56	3.08	3.31	0.25	0.93	34.83	1.12	1.04	1.19	1.09
12000	3.54	3.09	3.31	0.23	0.77	34.95	1.13	1.06	1.18	1.07
12100	3.53	3.11	3.31	0.22	0.78	30.81	1.16	1.09	1.19	1.06
12200	3.57	3.12	3.34	0.23	0.84	27.91	1.18	1.09	1.21	1.03
12400	3.57	3.21	3.39	0.19	0.29	23.53	1.28	1.20	1.24	1.02
12600	3.55	3.34	3.44	0.12	0.07	22.25	1.32	1.28	1.18	1.06
12800	3.39	3.31	3.35	0.05	0.46	23.50	1.10	1.09	1.22	1.18
13000	3.33	3.42	3.37	0.04	0.80	22.93	1.13	1.04	1.32	1.24

Note: Phase Unbalance shown relative to 90°; Amplitude Unbalance 1/2 of peak-to-peak difference

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2 Way 90° Power Splitter/Combiner

QCH-123+

Typical Performance Data

TEST CONDITIONS: INPUT POWER =+5 dBm @Temperature = +105°C, Sum port at pad 3

FREQ. (MHz)	TOTAL LOSS (dB)			Amp. Unbal. (±dB) See Note	Phase Unbal. (deg) See Note	ISOLATION (dB) Port 1 - Port 2	VSWR (:1)			
	Sum-Port 1	Sum-Port 2	Avg				Sum	Port 1	Port 2	Iso
7000	2.79	3.52	3.14	0.37	0.16	22.30	1.19	1.20	1.24	1.25
7200	2.87	3.40	3.13	0.26	0.08	24.71	1.17	1.20	1.15	1.15
7400	2.93	3.32	3.12	0.19	-0.26	28.17	1.14	1.17	1.11	1.07
7600	2.98	3.26	3.12	0.14	-0.31	27.86	1.09	1.12	1.14	1.14
7700	3.00	3.24	3.12	0.12	-0.30	27.53	1.07	1.10	1.17	1.18
7800	3.03	3.20	3.11	0.08	-0.22	28.23	1.06	1.10	1.18	1.18
7900	3.07	3.18	3.12	0.05	-0.16	30.20	1.06	1.10	1.15	1.14
8000	3.10	3.15	3.12	0.02	-0.28	34.07	1.06	1.10	1.11	1.08
8100	3.13	3.11	3.12	0.02	-0.42	39.67	1.05	1.08	1.07	1.02
8200	3.15	3.10	3.12	0.03	-0.47	37.10	1.03	1.05	1.04	1.03
8300	3.16	3.09	3.12	0.05	-0.52	32.64	1.01	1.01	1.07	1.07
8400	3.19	3.08	3.13	0.06	-0.46	30.96	1.04	1.02	1.15	1.15
8500	3.20	3.08	3.14	0.07	-0.44	30.10	1.06	1.04	1.22	1.20
8600	3.22	3.07	3.14	0.09	-0.34	30.97	1.08	1.05	1.22	1.19
8700	3.24	3.05	3.14	0.11	-0.12	32.95	1.07	1.04	1.17	1.14
8800	3.29	3.02	3.15	0.14	-0.11	33.60	1.05	1.02	1.09	1.07
8900	3.30	2.99	3.14	0.17	-0.30	30.58	1.04	1.03	1.02	1.05
9000	3.35	2.99	3.17	0.19	-0.35	27.73	1.07	1.05	1.06	1.08
9100	3.37	3.00	3.18	0.20	-0.55	25.93	1.10	1.07	1.14	1.12
9200	3.38	3.00	3.19	0.21	-0.61	24.98	1.13	1.09	1.22	1.19
9300	3.39	3.01	3.20	0.20	-0.63	24.80	1.13	1.10	1.27	1.25
9400	3.38	3.03	3.20	0.19	-0.27	25.07	1.11	1.09	1.27	1.25
9500	3.41	3.00	3.20	0.22	-0.13	25.53	1.07	1.07	1.19	1.20
9600	3.43	2.97	3.19	0.24	-0.16	25.61	1.05	1.06	1.09	1.13
9700	3.46	2.99	3.22	0.25	0.01	24.99	1.07	1.07	1.03	1.12
9800	3.52	2.96	3.23	0.29	-0.03	24.00	1.11	1.11	1.08	1.14
9900	3.52	2.97	3.24	0.29	-0.26	23.24	1.12	1.12	1.12	1.16
10000	3.54	2.98	3.25	0.29	-0.30	22.83	1.12	1.14	1.17	1.21
10100	3.53	2.99	3.25	0.28	-0.30	22.73	1.09	1.14	1.19	1.24
10200	3.58	2.98	3.27	0.31	-0.26	22.88	1.07	1.14	1.16	1.24
10300	3.54	2.96	3.24	0.30	-0.33	22.87	1.08	1.14	1.11	1.22
10400	3.55	3.01	3.27	0.28	-0.04	23.25	1.13	1.14	1.05	1.19
10500	3.57	3.01	3.28	0.30	-0.04	23.30	1.16	1.14	1.01	1.16
10600	3.58	3.01	3.29	0.30	-0.06	23.52	1.17	1.15	1.03	1.15
10700	3.59	2.99	3.28	0.31	-0.05	24.21	1.15	1.16	1.06	1.15
10800	3.59	3.00	3.28	0.30	-0.25	24.46	1.14	1.16	1.07	1.15
10900	3.59	3.03	3.30	0.29	0.04	25.58	1.15	1.17	1.09	1.16
11000	3.59	3.02	3.30	0.31	0.05	26.11	1.16	1.16	1.10	1.16
11100	3.58	3.04	3.30	0.29	0.24	26.05	1.18	1.16	1.10	1.17
11200	3.57	3.05	3.30	0.27	0.36	25.38	1.20	1.14	1.10	1.18
11300	3.59	3.04	3.31	0.29	0.49	25.46	1.20	1.12	1.08	1.16
11400	3.56	3.02	3.28	0.29	0.13	25.51	1.19	1.10	1.07	1.14
11500	3.57	3.05	3.30	0.28	0.33	25.92	1.20	1.10	1.07	1.09
11600	3.56	3.06	3.30	0.26	0.28	26.89	1.20	1.10	1.10	1.04
11700	3.57	3.08	3.32	0.26	0.25	27.91	1.21	1.10	1.13	1.03
11800	3.56	3.10	3.32	0.25	0.14	29.30	1.20	1.11	1.14	1.04
11900	3.57	3.09	3.32	0.25	0.35	30.67	1.19	1.09	1.12	1.04
12000	3.54	3.10	3.31	0.23	0.11	29.79	1.18	1.07	1.13	1.06
12100	3.53	3.12	3.32	0.22	0.26	26.95	1.19	1.06	1.16	1.09
12200	3.55	3.13	3.33	0.22	0.11	24.62	1.21	1.03	1.18	1.09
12400	3.50	3.22	3.36	0.15	-0.71	21.26	1.24	1.02	1.28	1.20
12600	3.39	3.35	3.37	0.04	-0.10	21.09	1.18	1.06	1.32	1.28
12800	3.42	3.32	3.37	0.06	0.35	22.56	1.22	1.18	1.10	1.09
13000	3.43	3.43	3.43	0.02	-0.30	21.52	1.32	1.24	1.13	1.04

Note: Phase Unbalance shown relative to 90°; Amplitude Unbalance 1/2 of peak-to-peak difference

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2 Way 90° Power Splitter/Combiner

QCH-123+

Typical Performance Data

TEST CONDITIONS: INPUT POWER =+5 dBm @Temperature = +105°C, Sum port at pad 4

FREQ. (MHz)	TOTAL LOSS			Amp. Unbal. (±dB) See Note	Phase Unbal. (deg) See Note	ISOLATION (dB) Port 1 - Port 2	VSWR			
	Sum-Port 1	Sum-Port 2	Avg				(:1) Sum	Port 1	Port 2	Iso
7000	2.83	3.52	3.16	0.35	0.88	22.46	1.25	1.24	1.20	1.19
7200	2.87	3.40	3.13	0.27	0.71	24.89	1.15	1.15	1.20	1.17
7400	2.93	3.30	3.11	0.20	0.61	28.17	1.07	1.11	1.17	1.14
7600	3.01	3.25	3.13	0.14	0.61	27.84	1.14	1.14	1.12	1.09
7700	3.04	3.24	3.14	0.11	0.62	27.57	1.18	1.17	1.10	1.07
7800	3.08	3.20	3.14	0.07	0.65	28.29	1.18	1.18	1.10	1.06
7900	3.11	3.16	3.13	0.03	0.59	30.24	1.14	1.15	1.10	1.06
8000	3.13	3.14	3.13	0.02	0.44	33.84	1.08	1.11	1.10	1.06
8100	3.15	3.10	3.12	0.02	0.54	37.84	1.02	1.07	1.08	1.05
8200	3.17	3.09	3.13	0.04	0.53	35.48	1.03	1.04	1.05	1.03
8300	3.19	3.06	3.12	0.06	0.50	31.72	1.07	1.07	1.01	1.01
8400	3.25	3.07	3.16	0.08	0.54	30.26	1.15	1.15	1.02	1.04
8500	3.29	3.06	3.17	0.11	0.38	29.44	1.20	1.22	1.04	1.06
8600	3.32	3.03	3.17	0.13	0.40	30.19	1.19	1.22	1.05	1.08
8700	3.32	3.02	3.17	0.14	0.35	31.88	1.14	1.17	1.04	1.07
8800	3.34	2.98	3.16	0.17	0.40	32.66	1.07	1.09	1.02	1.05
8900	3.34	2.98	3.16	0.17	0.49	30.25	1.05	1.02	1.03	1.04
9000	3.38	2.96	3.16	0.20	0.61	27.66	1.08	1.06	1.05	1.07
9100	3.43	2.96	3.19	0.23	0.46	25.88	1.12	1.14	1.07	1.10
9200	3.47	2.98	3.22	0.24	0.37	24.91	1.19	1.22	1.09	1.13
9300	3.52	3.00	3.25	0.25	0.39	24.65	1.25	1.27	1.10	1.13
9400	3.52	2.99	3.25	0.26	0.21	24.88	1.25	1.27	1.09	1.11
9500	3.53	2.99	3.25	0.26	0.12	25.30	1.20	1.19	1.07	1.07
9600	3.51	2.95	3.22	0.27	0.24	25.43	1.13	1.09	1.06	1.05
9700	3.51	2.97	3.23	0.27	0.26	24.94	1.12	1.03	1.07	1.07
9800	3.56	2.97	3.25	0.29	0.76	24.01	1.14	1.08	1.11	1.11
9900	3.60	2.96	3.27	0.31	0.48	23.35	1.16	1.12	1.12	1.12
10000	3.62	2.99	3.29	0.31	0.46	22.94	1.21	1.17	1.14	1.12
10100	3.62	2.99	3.29	0.30	0.47	22.85	1.24	1.19	1.14	1.09
10200	3.65	3.00	3.31	0.31	0.42	22.94	1.24	1.16	1.14	1.07
10300	3.61	3.00	3.29	0.30	0.41	22.87	1.22	1.11	1.14	1.08
10400	3.60	2.96	3.27	0.31	0.51	23.23	1.19	1.05	1.14	1.13
10500	3.60	2.98	3.28	0.30	0.37	23.26	1.16	1.01	1.14	1.16
10600	3.59	2.98	3.27	0.29	0.56	23.48	1.15	1.03	1.15	1.17
10700	3.60	3.00	3.29	0.29	0.82	24.26	1.15	1.06	1.16	1.15
10800	3.60	2.99	3.28	0.30	0.51	24.63	1.15	1.07	1.16	1.14
10900	3.59	3.02	3.30	0.28	1.00	25.82	1.16	1.09	1.17	1.15
11000	3.61	3.00	3.29	0.29	1.06	26.42	1.16	1.10	1.16	1.16
11100	3.64	3.02	3.32	0.30	0.93	26.31	1.17	1.10	1.16	1.18
11200	3.60	3.01	3.29	0.29	1.07	25.50	1.18	1.10	1.14	1.20
11300	3.60	3.02	3.30	0.28	0.97	25.53	1.16	1.08	1.12	1.20
11400	3.62	3.02	3.31	0.29	1.23	25.53	1.14	1.07	1.10	1.19
11500	3.60	3.02	3.30	0.28	1.35	25.92	1.09	1.07	1.10	1.20
11600	3.59	2.99	3.28	0.30	1.24	26.95	1.04	1.10	1.10	1.20
11700	3.58	3.01	3.29	0.28	1.08	28.05	1.03	1.13	1.10	1.21
11800	3.60	3.02	3.30	0.28	1.20	29.49	1.04	1.14	1.11	1.20
11900	3.58	3.02	3.29	0.27	1.11	31.08	1.04	1.12	1.09	1.19
12000	3.56	3.02	3.28	0.26	1.01	30.41	1.06	1.13	1.07	1.18
12100	3.55	3.03	3.28	0.25	1.12	27.41	1.09	1.16	1.06	1.19
12200	3.59	3.08	3.33	0.25	1.03	24.90	1.09	1.18	1.03	1.21
12400	3.60	3.11	3.35	0.23	0.63	21.34	1.20	1.28	1.02	1.24
12600	3.57	3.22	3.39	0.17	0.06	21.07	1.28	1.32	1.06	1.18
12800	3.42	3.26	3.34	0.07	0.51	22.57	1.09	1.10	1.18	1.22
13000	3.35	3.31	3.33	0.01	0.64	21.62	1.04	1.13	1.24	1.32

Note: Phase Unbalance shown relative to 90°; Amplitude Unbalance 1/2 of peak-to-peak difference

Notes

- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
 B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuits' applicable established test performance criteria and measurement instructions.
 C. The parts covered by this specification document are subject to Mini-Circuits' standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCStore/terms.jsp

