

2-Way 90° Power Splitter/Combiner

QCH-83+

Typical Performance Data

Test Conditions: Input Power = +5 dbm, Temperature = -55°C, Configuration A.

Freq. (MHz)	Total Loss*			Amp. Unb.	Ph. Unb.	Isolation	Return Loss			
	(dB)			(±dB)	(deg)	(dB)	(dB)			
	Sum-Port 1	Sum-Port 2	Average	Half P-P	Rel. to 90°	Port1-Port2	Sum	Port 1	Port 2	Iso
4000	-2.90	-3.32	-3.12	0.21	-2.17	-20.62	-19.48	-20.18	-19.45	-20.22
4100	-2.96	-3.26	-3.11	0.15	-2.13	-20.72	-19.58	-20.21	-19.77	-20.48
4200	-3.01	-3.19	-3.10	0.09	-2.09	-21.04	-19.85	-20.39	-19.98	-21.01
4300	-3.06	-3.13	-3.10	0.04	-2.00	-21.44	-20.40	-20.60	-20.57	-21.51
4400	-3.11	-3.07	-3.09	0.02	-2.02	-21.66	-20.81	-20.86	-21.19	-21.80
4500	-3.16	-3.01	-3.09	0.08	-2.02	-21.87	-20.82	-21.04	-21.27	-22.24
4600	-3.21	-2.97	-3.09	0.12	-2.08	-22.11	-20.92	-20.94	-21.51	-23.15
4700	-3.24	-2.93	-3.09	0.16	-2.07	-22.17	-21.34	-21.27	-21.80	-23.07
4800	-3.29	-2.89	-3.09	0.20	-2.16	-22.14	-21.59	-21.88	-21.90	-23.03
4900	-3.32	-2.85	-3.09	0.24	-2.10	-22.32	-21.79	-22.09	-21.97	-23.53
5000	-3.36	-2.82	-3.10	0.27	-2.13	-22.35	-21.96	-21.97	-22.10	-23.54
5100	-3.38	-2.79	-3.10	0.30	-2.12	-22.36	-22.29	-22.03	-22.64	-23.44
5200	-3.41	-2.76	-3.10	0.33	-2.08	-22.90	-22.74	-22.33	-23.12	-24.50
5300	-3.44	-2.74	-3.10	0.35	-2.05	-23.61	-23.47	-22.51	-23.69	-25.46
5400	-3.46	-2.72	-3.11	0.38	-2.06	-23.88	-24.28	-22.70	-24.45	-25.23
5500	-3.48	-2.69	-3.10	0.40	-2.04	-24.16	-24.46	-22.90	-25.31	-25.36
5600	-3.51	-2.67	-3.11	0.42	-2.09	-24.43	-24.35	-22.87	-25.64	-25.89
5700	-3.51	-2.69	-3.12	0.42	-2.07	-24.29	-23.91	-23.08	-25.11	-25.47
5800	-3.54	-2.66	-3.12	0.44	-2.26	-24.02	-24.30	-23.73	-25.54	-25.14
5900	-3.55	-2.67	-3.13	0.45	-2.18	-24.18	-24.28	-23.59	-25.77	-24.67
6000	-3.55	-2.65	-3.12	0.45	-2.25	-23.81	-24.56	-23.02	-25.87	-24.06
6100	-3.56	-2.66	-3.13	0.45	-2.25	-23.41	-24.11	-23.35	-25.54	-23.45
6200	-3.55	-2.69	-3.14	0.43	-2.10	-23.28	-23.79	-23.32	-25.56	-23.39
6300	-3.55	-2.68	-3.14	0.44	-2.15	-23.26	-24.01	-23.11	-25.94	-23.07
6400	-3.54	-2.68	-3.13	0.43	-2.13	-23.04	-24.25	-23.20	-26.22	-22.66
6500	-3.54	-2.69	-3.14	0.43	-2.05	-22.97	-24.23	-23.19	-26.74	-22.49
6600	-3.53	-2.70	-3.13	0.42	-2.18	-22.36	-23.58	-22.86	-27.30	-21.94
6700	-3.53	-2.71	-3.14	0.41	-2.08	-22.20	-23.08	-22.85	-26.74	-21.50
6800	-3.52	-2.72	-3.14	0.40	-2.04	-22.22	-23.37	-23.02	-26.41	-21.83
6900	-3.50	-2.76	-3.15	0.37	-2.03	-22.07	-22.97	-23.35	-25.79	-21.98
7000	-3.50	-2.78	-3.15	0.36	-2.06	-21.67	-22.28	-23.89	-25.52	-21.91
7100	-3.45	-2.82	-3.15	0.32	-1.96	-21.86	-21.94	-24.30	-24.88	-22.21
7200	-3.46	-2.91	-3.19	0.28	-1.64	-22.21	-21.76	-24.22	-24.52	-22.40
7300	-3.39	-2.90	-3.15	0.25	-1.73	-22.26	-22.52	-25.01	-24.78	-23.16
7400	-3.39	-2.91	-3.16	0.25	-1.80	-22.78	-22.82	-25.41	-24.60	-23.25
7500	-3.37	-2.95	-3.17	0.21	-1.86	-22.98	-23.74	-26.23	-24.64	-24.69
7600	-3.29	-3.04	-3.17	0.13	-1.51	-23.65	-23.47	-26.29	-24.49	-24.96
7700	-3.32	-3.05	-3.19	0.14	-1.32	-22.97	-23.97	-27.65	-25.14	-25.23
7800	-3.22	-3.16	-3.19	0.03	-1.32	-22.86	-22.97	-29.46	-24.34	-26.13
7900	-3.20	-3.16	-3.18	0.02	-1.36	-23.43	-22.80	-28.97	-23.80	-26.69
8000	-3.12	-3.24	-3.18	0.07	-1.42	-23.45	-23.23	-28.43	-24.80	-27.14

* Total loss is the loss from Sum to each coupled port including the 3 dB theoretical split.

2-Way 90° Power Splitter/Combiner

QCH-83+

Typical Performance Data

Test Conditions: Input Power = +5 dbm, Temperature = -55°C, Configuration B.

Freq. (MHz)	Total Loss*			Amp. Unb.	Ph. Unb.	Isolation	Return Loss			
	(dB)			(±dB)	(deg)	(dB)	(dB)			
	Sum-Port 1	Sum-Port 2	Average	Half P-P	Rel. to 90°	Port1-Port2	Sum	Port 1	Port 2	Iso
4000	-2.92	-3.31	-3.12	0.20	0.34	-20.63	-20.22	-19.45	-20.18	-19.48
4100	-2.97	-3.24	-3.11	0.14	0.41	-20.73	-20.48	-19.77	-20.21	-19.58
4200	-3.02	-3.18	-3.10	0.08	0.54	-21.04	-21.01	-19.98	-20.39	-19.85
4300	-3.07	-3.12	-3.10	0.03	0.68	-21.44	-21.51	-20.57	-20.60	-20.40
4400	-3.12	-3.07	-3.10	0.03	0.74	-21.66	-21.80	-21.19	-20.86	-20.81
4500	-3.17	-3.01	-3.09	0.08	0.82	-21.87	-22.24	-21.27	-21.04	-20.82
4600	-3.21	-2.97	-3.09	0.12	0.85	-22.11	-23.15	-21.51	-20.94	-20.92
4700	-3.25	-2.92	-3.09	0.16	0.94	-22.18	-23.07	-21.80	-21.27	-21.34
4800	-3.30	-2.88	-3.10	0.21	1.03	-22.15	-23.03	-21.90	-21.88	-21.59
4900	-3.33	-2.85	-3.10	0.24	1.07	-22.33	-23.53	-21.97	-22.09	-21.79
5000	-3.37	-2.82	-3.10	0.27	1.08	-22.36	-23.54	-22.10	-21.97	-21.96
5100	-3.39	-2.80	-3.11	0.30	1.09	-22.38	-23.44	-22.64	-22.03	-22.29
5200	-3.42	-2.76	-3.10	0.33	1.21	-22.91	-24.50	-23.12	-22.33	-22.74
5300	-3.44	-2.74	-3.10	0.35	1.33	-23.62	-25.46	-23.69	-22.51	-23.47
5400	-3.47	-2.73	-3.12	0.37	1.42	-23.89	-25.23	-24.45	-22.70	-24.28
5500	-3.48	-2.70	-3.11	0.39	1.51	-24.16	-25.36	-25.31	-22.90	-24.46
5600	-3.51	-2.69	-3.12	0.41	1.53	-24.44	-25.89	-25.64	-22.87	-24.35
5700	-3.53	-2.68	-3.13	0.42	1.61	-24.30	-25.47	-25.11	-23.08	-23.91
5800	-3.55	-2.67	-3.13	0.44	1.53	-24.03	-25.14	-25.54	-23.73	-24.30
5900	-3.56	-2.66	-3.13	0.45	1.74	-24.19	-24.67	-25.77	-23.59	-24.28
6000	-3.57	-2.67	-3.14	0.45	1.69	-23.81	-24.06	-25.87	-23.02	-24.56
6100	-3.58	-2.69	-3.16	0.45	1.63	-23.42	-23.45	-25.54	-23.35	-24.11
6200	-3.58	-2.68	-3.15	0.45	1.91	-23.29	-23.39	-25.56	-23.32	-23.79
6300	-3.57	-2.69	-3.15	0.44	1.93	-23.25	-23.07	-25.94	-23.11	-24.01
6400	-3.57	-2.70	-3.16	0.44	2.01	-23.05	-22.66	-26.22	-23.20	-24.25
6500	-3.56	-2.71	-3.16	0.43	2.20	-22.99	-22.49	-26.74	-23.19	-24.23
6600	-3.55	-2.71	-3.15	0.42	2.20	-22.37	-21.94	-27.30	-22.86	-23.58
6700	-3.54	-2.74	-3.16	0.40	2.30	-22.21	-21.50	-26.74	-22.85	-23.08
6800	-3.55	-2.76	-3.17	0.40	2.49	-22.24	-21.83	-26.41	-23.02	-23.37
6900	-3.53	-2.78	-3.17	0.38	2.65	-22.08	-21.98	-25.79	-23.35	-22.97
7000	-3.52	-2.79	-3.17	0.37	2.54	-21.68	-21.91	-25.52	-23.89	-22.28
7100	-3.47	-2.83	-3.16	0.32	2.66	-21.87	-22.21	-24.88	-24.30	-21.94
7200	-3.50	-2.86	-3.19	0.32	2.89	-22.26	-22.40	-24.52	-24.22	-21.76
7300	-3.42	-2.91	-3.17	0.26	3.02	-22.27	-23.16	-24.78	-25.01	-22.52
7400	-3.42	-2.93	-3.18	0.25	3.21	-22.76	-23.25	-24.60	-25.41	-22.82
7500	-3.40	-2.93	-3.17	0.24	3.10	-23.00	-24.69	-24.64	-26.23	-23.74
7600	-3.32	-3.01	-3.17	0.16	3.35	-23.65	-24.96	-24.49	-26.29	-23.47
7700	-3.35	-3.06	-3.21	0.15	3.79	-22.99	-25.23	-25.14	-27.65	-23.97
7800	-3.27	-3.14	-3.21	0.06	3.80	-22.91	-26.13	-24.34	-29.46	-22.97
7900	-3.22	-3.14	-3.18	0.04	3.47	-23.43	-26.69	-23.80	-28.97	-22.80
8000	-3.18	-3.25	-3.22	0.04	3.95	-23.45	-27.14	-24.80	-28.43	-23.23

* Total loss is the loss from Sum to each coupled port including the 3 dB theoretical split.

2-Way 90° Power Splitter/Combiner

QCH-83+

Typical Performance Data

Test Conditions: Input Power = +5 dbm, Temperature = -55°C, Configuration C.

Freq. (MHz)	Total Loss*			Amp. Unb.	Ph. Unb.	Isolation	Return Loss			
	(dB)			(±dB)	(deg)	(dB)	(dB)			
	Sum-Port 1	Sum-Port 2	Average	Half P-P	Rel. to 90°	Port1-Port2	Sum	Port 1	Port 2	Iso
4000	-2.89	-3.31	-3.11	0.21	-0.51	-20.51	-20.18	-19.48	-20.22	-19.45
4100	-2.95	-3.24	-3.10	0.15	-0.43	-20.62	-20.21	-19.58	-20.48	-19.77
4200	-3.00	-3.18	-3.09	0.09	-0.33	-20.76	-20.39	-19.85	-21.01	-19.98
4300	-3.06	-3.13	-3.10	0.03	-0.23	-21.00	-20.60	-20.40	-21.51	-20.57
4400	-3.10	-3.07	-3.09	0.02	-0.21	-21.32	-20.86	-20.81	-21.80	-21.19
4500	-3.15	-3.01	-3.08	0.08	-0.15	-21.53	-21.04	-20.82	-22.24	-21.27
4600	-3.20	-2.97	-3.09	0.12	-0.14	-21.41	-20.94	-20.92	-23.15	-21.51
4700	-3.24	-2.93	-3.09	0.16	-0.09	-21.62	-21.27	-21.34	-23.07	-21.80
4800	-3.28	-2.88	-3.08	0.21	-0.10	-21.80	-21.88	-21.59	-23.03	-21.90
4900	-3.31	-2.85	-3.09	0.24	-0.06	-21.84	-22.09	-21.79	-23.53	-21.97
5000	-3.35	-2.83	-3.10	0.27	-0.04	-21.83	-21.97	-21.96	-23.54	-22.10
5100	-3.38	-2.80	-3.10	0.29	0.01	-21.80	-22.03	-22.29	-23.44	-22.64
5200	-3.40	-2.76	-3.09	0.33	0.11	-22.22	-22.33	-22.74	-24.50	-23.12
5300	-3.43	-2.74	-3.10	0.35	0.15	-22.47	-22.51	-23.47	-25.46	-23.69
5400	-3.45	-2.73	-3.10	0.37	0.22	-22.81	-22.70	-24.28	-25.23	-24.45
5500	-3.47	-2.70	-3.10	0.39	0.31	-23.19	-22.90	-24.46	-25.36	-25.31
5600	-3.50	-2.69	-3.11	0.41	0.28	-23.40	-22.87	-24.35	-25.89	-25.64
5700	-3.50	-2.68	-3.11	0.42	0.28	-23.46	-23.08	-23.91	-25.47	-25.11
5800	-3.53	-2.67	-3.12	0.44	0.15	-23.67	-23.73	-24.30	-25.14	-25.54
5900	-3.55	-2.66	-3.13	0.45	0.36	-24.10	-23.59	-24.28	-24.67	-25.77
6000	-3.54	-2.67	-3.13	0.44	0.33	-23.74	-23.02	-24.56	-24.06	-25.87
6100	-3.56	-2.69	-3.15	0.44	0.28	-23.74	-23.35	-24.11	-23.45	-25.54
6200	-3.54	-2.68	-3.13	0.44	0.52	-23.78	-23.32	-23.79	-23.39	-25.56
6300	-3.55	-2.69	-3.14	0.44	0.42	-23.82	-23.11	-24.01	-23.07	-25.94
6400	-3.53	-2.70	-3.13	0.42	0.65	-24.08	-23.20	-24.25	-22.66	-26.22
6500	-3.53	-2.71	-3.14	0.42	0.75	-24.13	-23.19	-24.23	-22.49	-26.74
6600	-3.53	-2.71	-3.14	0.41	0.80	-24.25	-22.86	-23.58	-21.94	-27.30
6700	-3.52	-2.74	-3.15	0.40	0.85	-24.20	-22.85	-23.08	-21.50	-26.74
6800	-3.51	-2.76	-3.15	0.38	0.96	-24.08	-23.02	-23.37	-21.83	-26.41
6900	-3.49	-2.78	-3.15	0.36	1.06	-24.22	-23.35	-22.97	-21.98	-25.79
7000	-3.49	-2.79	-3.15	0.36	1.08	-24.18	-23.89	-22.28	-21.91	-25.52
7100	-3.45	-2.83	-3.15	0.31	1.13	-24.20	-24.30	-21.94	-22.21	-24.88
7200	-3.46	-2.86	-3.17	0.30	1.44	-24.29	-24.22	-21.76	-22.40	-24.52
7300	-3.38	-2.91	-3.15	0.24	1.31	-24.47	-25.01	-22.52	-23.16	-24.78
7400	-3.38	-2.93	-3.16	0.23	1.51	-24.78	-25.41	-22.82	-23.25	-24.60
7500	-3.36	-2.93	-3.15	0.22	1.42	-24.21	-26.23	-23.74	-24.69	-24.64
7600	-3.28	-3.01	-3.15	0.14	1.65	-24.50	-26.29	-23.47	-24.96	-24.49
7700	-3.31	-3.06	-3.19	0.13	2.10	-24.89	-27.65	-23.97	-25.23	-25.14
7800	-3.21	-3.14	-3.18	0.04	2.07	-24.23	-29.46	-22.97	-26.13	-24.34
7900	-3.19	-3.14	-3.17	0.03	1.88	-24.45	-28.97	-22.80	-26.69	-23.80
8000	-3.10	-3.24	-3.17	0.07	2.27	-23.93	-28.43	-23.23	-27.14	-24.80

* Total loss is the loss from Sum to each coupled port including the 3 dB theoretical split.

2-Way 90° Power Splitter/Combiner

QCH-83+

Typical Performance Data

Test Conditions: Input Power = +5 dbm, Temperature = -55°C, Configuration D.

Freq. (MHz)	Total Loss*			Amp. Unb.	Ph. Unb.	Isolation	Return Loss			
	(dB)			(±dB)	(deg)	(dB)	(dB)			
	Sum-Port 1	Sum-Port 2	Average	Half P-P	Rel. to 90°	Port1-Port2	Sum	Port 1	Port 2	Iso
4000	-2.92	-3.32	-3.12	0.20	-1.33	-20.50	-19.45	-20.22	-19.48	-20.18
4100	-2.97	-3.25	-3.11	0.15	-1.29	-20.61	-19.77	-20.48	-19.58	-20.21
4200	-3.02	-3.18	-3.10	0.09	-1.23	-20.74	-19.98	-21.01	-19.85	-20.39
4300	-3.07	-3.13	-3.10	0.04	-1.10	-20.99	-20.57	-21.51	-20.40	-20.60
4400	-3.12	-3.06	-3.09	0.03	-1.08	-21.31	-21.19	-21.80	-20.81	-20.86
4500	-3.17	-3.01	-3.09	0.08	-1.07	-21.52	-21.27	-22.24	-20.82	-21.04
4600	-3.21	-2.96	-3.09	0.12	-1.10	-21.40	-21.51	-23.15	-20.92	-20.94
4700	-3.25	-2.92	-3.09	0.16	-1.06	-21.61	-21.80	-23.07	-21.34	-21.27
4800	-3.30	-2.88	-3.10	0.21	-1.04	-21.79	-21.90	-23.03	-21.59	-21.88
4900	-3.33	-2.85	-3.10	0.24	-0.99	-21.83	-21.97	-23.53	-21.79	-22.09
5000	-3.37	-2.81	-3.10	0.28	-1.02	-21.82	-22.10	-23.54	-21.96	-21.97
5100	-3.39	-2.79	-3.10	0.30	-1.05	-21.80	-22.64	-23.44	-22.29	-22.03
5200	-3.42	-2.76	-3.10	0.33	-0.99	-22.22	-23.12	-24.50	-22.74	-22.33
5300	-3.44	-2.73	-3.10	0.36	-0.89	-22.46	-23.69	-25.46	-23.47	-22.51
5400	-3.47	-2.71	-3.11	0.38	-0.89	-22.80	-24.45	-25.23	-24.28	-22.70
5500	-3.48	-2.69	-3.10	0.40	-0.86	-23.19	-25.31	-25.36	-24.46	-22.90
5600	-3.51	-2.66	-3.11	0.42	-0.85	-23.40	-25.64	-25.89	-24.35	-22.87
5700	-3.53	-2.68	-3.13	0.42	-0.76	-23.47	-25.11	-25.47	-23.91	-23.08
5800	-3.55	-2.65	-3.12	0.45	-0.92	-23.67	-25.54	-25.14	-24.30	-23.73
5900	-3.56	-2.66	-3.13	0.45	-0.81	-24.10	-25.77	-24.67	-24.28	-23.59
6000	-3.57	-2.64	-3.13	0.46	-0.90	-23.73	-25.87	-24.06	-24.56	-23.02
6100	-3.58	-2.66	-3.14	0.46	-0.92	-23.74	-25.54	-23.45	-24.11	-23.35
6200	-3.58	-2.68	-3.15	0.45	-0.75	-23.78	-25.56	-23.39	-23.79	-23.32
6300	-3.57	-2.67	-3.14	0.45	-0.68	-23.81	-25.94	-23.07	-24.01	-23.11
6400	-3.57	-2.67	-3.14	0.45	-0.79	-24.08	-26.22	-22.66	-24.25	-23.20
6500	-3.56	-2.68	-3.14	0.44	-0.60	-24.13	-26.74	-22.49	-24.23	-23.19
6600	-3.55	-2.69	-3.14	0.43	-0.79	-24.26	-27.30	-21.94	-23.58	-22.86
6700	-3.54	-2.70	-3.14	0.42	-0.65	-24.21	-26.74	-21.50	-23.08	-22.85
6800	-3.55	-2.72	-3.15	0.42	-0.53	-24.08	-26.41	-21.83	-23.37	-23.02
6900	-3.53	-2.75	-3.16	0.39	-0.45	-24.23	-25.79	-21.98	-22.97	-23.35
7000	-3.51	-2.77	-3.16	0.37	-0.62	-24.17	-25.52	-21.91	-22.28	-23.89
7100	-3.47	-2.82	-3.16	0.33	-0.43	-24.22	-24.88	-22.21	-21.94	-24.30
7200	-3.50	-2.90	-3.21	0.30	-0.17	-24.32	-24.52	-22.40	-21.76	-24.22
7300	-3.42	-2.89	-3.16	0.26	-0.01	-24.46	-24.78	-23.16	-22.52	-25.01
7400	-3.42	-2.90	-3.17	0.26	-0.11	-24.71	-24.60	-23.25	-22.82	-25.41
7500	-3.40	-2.94	-3.18	0.23	-0.19	-24.21	-24.64	-24.69	-23.74	-26.23
7600	-3.32	-3.03	-3.18	0.14	0.22	-24.50	-24.49	-24.96	-23.47	-26.29
7700	-3.35	-3.05	-3.20	0.15	0.38	-24.90	-25.14	-25.23	-23.97	-27.65
7800	-3.26	-3.15	-3.21	0.06	0.39	-24.30	-24.34	-26.13	-22.97	-29.46
7900	-3.21	-3.15	-3.18	0.03	0.25	-24.44	-23.80	-26.69	-22.80	-28.97
8000	-3.17	-3.23	-3.20	0.04	0.27	-23.93	-24.80	-27.14	-23.23	-28.43

* Total loss is the loss from Sum to each coupled port including the 3 dB theoretical split.

2-Way 90° Power Splitter/Combiner

QCH-83+

Typical Performance Data

Test Conditions: Input Power = +5 dbm, Temperature = +25°C, Configuration A.

Freq. (MHz)	Total Loss*			Amp. Unb.	Ph. Unb.	Isolation	Return Loss			
	(dB)			(±dB)	(deg)	(dB)	(dB)			
	Sum-Port 1	Sum-Port 2	Average	Half P-P	Rel. to 90°	Port1-Port2	Sum	Port 1	Port 2	Iso
4000	-2.88	-3.38	-3.14	0.26	-1.88	-20.29	-19.09	-19.53	-18.89	-19.96
4100	-2.94	-3.31	-3.13	0.19	-1.81	-20.52	-19.38	-19.82	-19.11	-20.32
4200	-2.99	-3.24	-3.12	0.13	-1.77	-20.73	-19.70	-20.08	-19.40	-20.66
4300	-3.05	-3.18	-3.12	0.08	-1.74	-20.92	-19.91	-20.26	-19.76	-21.01
4400	-3.10	-3.13	-3.12	0.02	-1.70	-21.11	-20.23	-20.46	-20.10	-21.24
4500	-3.15	-3.07	-3.11	0.03	-1.67	-21.33	-20.52	-20.66	-20.41	-21.60
4600	-3.19	-3.02	-3.11	0.08	-1.66	-21.51	-20.83	-20.82	-20.76	-22.02
4700	-3.23	-2.98	-3.11	0.12	-1.64	-21.73	-21.22	-21.16	-21.09	-22.39
4800	-3.27	-2.94	-3.11	0.16	-1.63	-21.96	-21.47	-21.40	-21.56	-23.00
4900	-3.31	-2.90	-3.11	0.20	-1.62	-22.08	-21.85	-21.56	-22.11	-23.23
5000	-3.34	-2.86	-3.11	0.24	-1.62	-22.32	-22.08	-21.73	-22.42	-23.58
5100	-3.37	-2.83	-3.11	0.27	-1.63	-22.54	-22.39	-21.80	-23.01	-24.05
5200	-3.40	-2.80	-3.11	0.30	-1.63	-22.86	-22.72	-22.08	-23.43	-24.49
5300	-3.42	-2.78	-3.11	0.32	-1.63	-23.19	-23.12	-22.42	-23.88	-24.81
5400	-3.45	-2.75	-3.11	0.34	-1.64	-23.36	-23.48	-22.63	-24.45	-24.99
5500	-3.47	-2.73	-3.12	0.36	-1.65	-23.59	-23.73	-22.76	-24.98	-25.33
5600	-3.48	-2.72	-3.12	0.38	-1.66	-23.80	-23.93	-22.83	-25.48	-25.47
5700	-3.50	-2.71	-3.12	0.39	-1.66	-24.04	-24.22	-23.12	-25.93	-25.63
5800	-3.50	-2.70	-3.12	0.40	-1.66	-24.19	-24.53	-23.45	-26.45	-25.75
5900	-3.51	-2.70	-3.12	0.41	-1.66	-24.38	-24.68	-23.68	-27.07	-26.08
6000	-3.52	-2.70	-3.13	0.41	-1.66	-24.47	-24.99	-23.89	-27.76	-25.91
6100	-3.52	-2.70	-3.13	0.41	-1.61	-24.53	-25.19	-24.07	-28.07	-25.79
6200	-3.52	-2.71	-3.13	0.40	-1.53	-24.59	-25.48	-24.34	-28.40	-25.66
6300	-3.51	-2.70	-3.12	0.40	-1.45	-24.71	-25.63	-24.65	-29.09	-25.66
6400	-3.51	-2.71	-3.13	0.40	-1.39	-24.88	-25.73	-25.28	-29.56	-25.83
6500	-3.50	-2.71	-3.12	0.39	-1.35	-24.92	-26.10	-25.56	-30.22	-25.56
6600	-3.49	-2.73	-3.13	0.38	-1.30	-24.98	-26.29	-25.82	-30.62	-25.29
6700	-3.48	-2.74	-3.13	0.37	-1.24	-25.02	-26.41	-26.11	-30.80	-25.26
6800	-3.47	-2.76	-3.13	0.35	-1.18	-24.94	-26.40	-26.66	-30.55	-25.24
6900	-3.45	-2.78	-3.13	0.34	-1.13	-24.96	-26.32	-27.40	-30.25	-25.51
7000	-3.44	-2.80	-3.13	0.31	-1.07	-24.84	-26.20	-28.15	-30.13	-25.55
7100	-3.41	-2.83	-3.13	0.29	-1.00	-24.87	-26.33	-28.27	-30.09	-25.41
7200	-3.39	-2.86	-3.13	0.26	-0.91	-24.77	-26.19	-28.25	-29.56	-25.42
7300	-3.37	-2.90	-3.14	0.23	-0.83	-24.58	-26.01	-28.65	-28.65	-25.37
7400	-3.34	-2.94	-3.14	0.20	-0.75	-24.44	-25.58	-28.89	-27.92	-25.72
7500	-3.32	-2.98	-3.15	0.17	-0.67	-24.34	-25.30	-28.96	-27.19	-25.98
7600	-3.29	-3.02	-3.16	0.13	-0.59	-24.11	-24.99	-28.53	-26.79	-25.94
7700	-3.26	-3.07	-3.17	0.09	-0.48	-23.85	-24.74	-27.81	-26.22	-25.88
7800	-3.22	-3.12	-3.17	0.05	-0.36	-23.63	-24.40	-26.92	-25.44	-25.84
7900	-3.19	-3.18	-3.19	0.01	-0.27	-23.37	-23.78	-26.31	-24.44	-26.18
8000	-3.15	-3.25	-3.20	0.06	-0.18	-23.05	-23.31	-25.51	-23.84	-26.23

* Total loss is the loss from Sum to each coupled port including the 3 dB theoretical split.

2-Way 90° Power Splitter/Combiner

QCH-83+

Typical Performance Data

Test Conditions: Input Power = +5 dbm, Temperature = +25°C, Configuration B.

Freq. (MHz)	Total Loss*			Amp. Unb.	Ph. Unb.	Isolation	Return Loss			
	(dB)			(±dB)	(deg)	(dB)	(dB)			
	Sum-Port 1	Sum-Port 2	Average	Half P-P	Rel. to 90°	Port1-Port2	Sum	Port 1	Port 2	Iso
4000	-2.90	-3.36	-3.14	0.23	0.16	-20.31	-19.96	-18.89	-19.53	-19.09
4100	-2.96	-3.29	-3.13	0.16	0.23	-20.55	-20.32	-19.11	-19.82	-19.38
4200	-3.01	-3.22	-3.12	0.10	0.31	-20.75	-20.66	-19.40	-20.08	-19.70
4300	-3.06	-3.16	-3.11	0.05	0.40	-20.94	-21.01	-19.76	-20.26	-19.91
4400	-3.11	-3.11	-3.11	0.01	0.47	-21.13	-21.24	-20.10	-20.46	-20.23
4500	-3.16	-3.06	-3.11	0.06	0.52	-21.35	-21.60	-20.41	-20.66	-20.52
4600	-3.20	-3.01	-3.11	0.11	0.57	-21.54	-22.02	-20.76	-20.82	-20.83
4700	-3.25	-2.97	-3.11	0.15	0.64	-21.74	-22.39	-21.09	-21.16	-21.22
4800	-3.28	-2.92	-3.10	0.19	0.70	-21.98	-23.00	-21.56	-21.40	-21.47
4900	-3.32	-2.89	-3.11	0.22	0.77	-22.10	-23.23	-22.11	-21.56	-21.85
5000	-3.35	-2.85	-3.11	0.26	0.82	-22.34	-23.58	-22.42	-21.73	-22.08
5100	-3.38	-2.82	-3.11	0.29	0.87	-22.56	-24.05	-23.01	-21.80	-22.39
5200	-3.41	-2.80	-3.12	0.32	0.95	-22.89	-24.49	-23.43	-22.08	-22.72
5300	-3.43	-2.77	-3.11	0.34	1.00	-23.21	-24.81	-23.88	-22.42	-23.12
5400	-3.46	-2.74	-3.11	0.36	1.05	-23.37	-24.99	-24.45	-22.63	-23.48
5500	-3.48	-2.73	-3.12	0.38	1.12	-23.60	-25.33	-24.98	-22.76	-23.73
5600	-3.49	-2.71	-3.12	0.40	1.16	-23.81	-25.47	-25.48	-22.83	-23.93
5700	-3.51	-2.70	-3.12	0.41	1.19	-24.06	-25.63	-25.93	-23.12	-24.22
5800	-3.52	-2.69	-3.12	0.42	1.24	-24.21	-25.75	-26.45	-23.45	-24.53
5900	-3.53	-2.68	-3.13	0.43	1.26	-24.39	-26.08	-27.07	-23.68	-24.68
6000	-3.53	-2.68	-3.13	0.43	1.31	-24.48	-25.91	-27.76	-23.89	-24.99
6100	-3.53	-2.68	-3.13	0.43	1.40	-24.54	-25.79	-28.07	-24.07	-25.19
6200	-3.53	-2.69	-3.13	0.43	1.48	-24.61	-25.66	-28.40	-24.34	-25.48
6300	-3.53	-2.69	-3.13	0.42	1.62	-24.73	-25.66	-29.09	-24.65	-25.63
6400	-3.52	-2.69	-3.12	0.42	1.76	-24.90	-25.83	-29.56	-25.28	-25.73
6500	-3.52	-2.70	-3.13	0.41	1.86	-24.94	-25.56	-30.22	-25.56	-26.10
6600	-3.51	-2.71	-3.13	0.41	1.98	-25.00	-25.29	-30.62	-25.82	-26.29
6700	-3.50	-2.72	-3.13	0.40	2.06	-25.04	-25.26	-30.80	-26.11	-26.41
6800	-3.49	-2.74	-3.13	0.38	2.15	-24.96	-25.24	-30.55	-26.66	-26.40
6900	-3.48	-2.76	-3.13	0.36	2.27	-24.98	-25.51	-30.25	-27.40	-26.32
7000	-3.46	-2.79	-3.14	0.34	2.36	-24.86	-25.55	-30.13	-28.15	-26.20
7100	-3.44	-2.81	-3.14	0.32	2.48	-24.88	-25.41	-30.09	-28.27	-26.33
7200	-3.41	-2.84	-3.13	0.30	2.59	-24.79	-25.42	-29.56	-28.25	-26.19
7300	-3.40	-2.88	-3.15	0.27	2.71	-24.60	-25.37	-28.65	-28.65	-26.01
7400	-3.37	-2.91	-3.15	0.24	2.83	-24.46	-25.72	-27.92	-28.89	-25.58
7500	-3.34	-2.95	-3.15	0.20	2.95	-24.35	-25.98	-27.19	-28.96	-25.30
7600	-3.31	-3.00	-3.16	0.17	3.09	-24.13	-25.94	-26.79	-28.53	-24.99
7700	-3.28	-3.05	-3.17	0.13	3.20	-23.87	-25.88	-26.22	-27.81	-24.74
7800	-3.25	-3.10	-3.18	0.08	3.33	-23.66	-25.84	-25.44	-26.92	-24.40
7900	-3.21	-3.16	-3.19	0.03	3.47	-23.38	-26.18	-24.44	-26.31	-23.78
8000	-3.18	-3.22	-3.20	0.02	3.63	-23.07	-26.23	-23.84	-25.51	-23.31

* Total loss is the loss from Sum to each coupled port including the 3 dB theoretical split.

2-Way 90° Power Splitter/Combiner

QCH-83+

Typical Performance Data

Test Conditions: Input Power = +5 dbm, Temperature = +25°C, Configuration C.

Freq. (MHz)	Total Loss*			Amp. Unb.	Ph. Unb.	Isolation	Return Loss			
	(dB)			(±dB)	(deg)	(dB)	(dB)			
	Sum-Port 1	Sum-Port 2	Average	Half P-P	Rel. to 90°	Port1-Port2	Sum	Port 1	Port 2	Iso
4000	-2.89	-3.36	-3.13	0.24	-0.48	-19.99	-19.53	-19.09	-19.96	-18.89
4100	-2.95	-3.29	-3.12	0.18	-0.40	-20.16	-19.82	-19.38	-20.32	-19.11
4200	-3.00	-3.22	-3.11	0.12	-0.34	-20.33	-20.08	-19.70	-20.66	-19.40
4300	-3.05	-3.16	-3.11	0.06	-0.28	-20.53	-20.26	-19.91	-21.01	-19.76
4400	-3.10	-3.11	-3.11	0.01	-0.22	-20.68	-20.46	-20.23	-21.24	-20.10
4500	-3.15	-3.05	-3.10	0.05	-0.16	-20.86	-20.66	-20.52	-21.60	-20.41
4600	-3.20	-3.01	-3.11	0.09	-0.14	-20.93	-20.82	-20.83	-22.02	-20.76
4700	-3.24	-2.96	-3.10	0.14	-0.08	-21.14	-21.16	-21.22	-22.39	-21.09
4800	-3.28	-2.92	-3.10	0.18	-0.03	-21.36	-21.40	-21.47	-23.00	-21.56
4900	-3.31	-2.89	-3.11	0.21	0.01	-21.49	-21.56	-21.85	-23.23	-22.11
5000	-3.35	-2.85	-3.11	0.25	0.05	-21.74	-21.73	-22.08	-23.58	-22.42
5100	-3.38	-2.82	-3.11	0.28	0.08	-21.81	-21.80	-22.39	-24.05	-23.01
5200	-3.41	-2.79	-3.11	0.31	0.13	-22.11	-22.08	-22.72	-24.49	-23.43
5300	-3.43	-2.77	-3.11	0.33	0.17	-22.32	-22.42	-23.12	-24.81	-23.88
5400	-3.46	-2.75	-3.12	0.35	0.19	-22.57	-22.63	-23.48	-24.99	-24.45
5500	-3.47	-2.73	-3.12	0.37	0.23	-22.83	-22.76	-23.73	-25.33	-24.98
5600	-3.49	-2.72	-3.12	0.39	0.28	-23.08	-22.83	-23.93	-25.47	-25.48
5700	-3.51	-2.70	-3.12	0.40	0.30	-23.41	-23.12	-24.22	-25.63	-25.93
5800	-3.52	-2.70	-3.13	0.41	0.34	-23.65	-23.45	-24.53	-25.75	-26.45
5900	-3.53	-2.69	-3.13	0.42	0.36	-24.03	-23.68	-24.68	-26.08	-27.07
6000	-3.54	-2.69	-3.14	0.42	0.38	-24.31	-23.89	-24.99	-25.91	-27.76
6100	-3.54	-2.70	-3.14	0.42	0.46	-24.53	-24.07	-25.19	-25.79	-28.07
6200	-3.53	-2.70	-3.13	0.42	0.55	-24.76	-24.34	-25.48	-25.66	-28.40
6300	-3.53	-2.71	-3.14	0.41	0.64	-25.07	-24.65	-25.63	-25.66	-29.09
6400	-3.53	-2.71	-3.14	0.41	0.76	-25.55	-25.28	-25.73	-25.83	-29.56
6500	-3.52	-2.72	-3.14	0.40	0.86	-25.90	-25.56	-26.10	-25.56	-30.22
6600	-3.51	-2.73	-3.14	0.39	0.95	-26.21	-25.82	-26.29	-25.29	-30.62
6700	-3.50	-2.74	-3.14	0.38	1.03	-26.55	-26.11	-26.41	-25.26	-30.80
6800	-3.49	-2.76	-3.14	0.37	1.10	-26.83	-26.66	-26.40	-25.24	-30.55
6900	-3.48	-2.78	-3.14	0.35	1.19	-27.17	-27.40	-26.32	-25.51	-30.25
7000	-3.46	-2.80	-3.14	0.33	1.29	-27.35	-28.15	-26.20	-25.55	-30.13
7100	-3.44	-2.83	-3.15	0.30	1.38	-27.44	-28.27	-26.33	-25.41	-30.09
7200	-3.42	-2.86	-3.15	0.28	1.47	-27.36	-28.25	-26.19	-25.42	-29.56
7300	-3.40	-2.90	-3.16	0.25	1.55	-27.31	-28.65	-26.01	-25.37	-28.65
7400	-3.38	-2.93	-3.16	0.22	1.65	-26.87	-28.89	-25.58	-25.72	-27.92
7500	-3.35	-2.97	-3.16	0.19	1.82	-26.51	-28.96	-25.30	-25.98	-27.19
7600	-3.32	-3.02	-3.17	0.15	1.88	-26.13	-28.53	-24.99	-25.94	-26.79
7700	-3.29	-3.07	-3.18	0.11	1.96	-25.49	-27.81	-24.74	-25.88	-26.22
7800	-3.25	-3.12	-3.19	0.06	2.09	-24.85	-26.92	-24.40	-25.84	-25.44
7900	-3.22	-3.18	-3.20	0.02	2.19	-24.21	-26.31	-23.78	-26.18	-24.44
8000	-3.18	-3.24	-3.21	0.04	2.36	-23.66	-25.51	-23.31	-26.23	-23.84

* Total loss is the loss from Sum to each coupled port including the 3 dB theoretical split.

2-Way 90° Power Splitter/Combiner

QCH-83+

Typical Performance Data

Test Conditions: Input Power = +5 dbm, Temperature = +25°C, Configuration D.

Freq. (MHz)	Total Loss*			Amp. Unb.	Ph. Unb.	Isolation	Return Loss			
	(dB)			(±dB)	(deg)	(dB)	(dB)			
	Sum-Port 1	Sum-Port 2	Average	Half P-P	Rel. to 90°	Port1-Port2	Sum	Port 1	Port 2	Iso
4000	-2.91	-3.40	-3.16	0.24	-1.25	-20.00	-18.89	-19.96	-19.09	-19.53
4100	-2.97	-3.33	-3.15	0.18	-1.19	-20.17	-19.11	-20.32	-19.38	-19.82
4200	-3.02	-3.26	-3.14	0.12	-1.13	-20.34	-19.40	-20.66	-19.70	-20.08
4300	-3.08	-3.20	-3.14	0.06	-1.08	-20.54	-19.76	-21.01	-19.91	-20.26
4400	-3.12	-3.14	-3.13	0.01	-1.02	-20.69	-20.10	-21.24	-20.23	-20.46
4500	-3.17	-3.09	-3.13	0.05	-1.01	-20.87	-20.41	-21.60	-20.52	-20.66
4600	-3.21	-3.04	-3.13	0.09	-0.97	-20.93	-20.76	-22.02	-20.83	-20.82
4700	-3.26	-2.99	-3.13	0.14	-0.93	-21.15	-21.09	-22.39	-21.22	-21.16
4800	-3.29	-2.95	-3.12	0.18	-0.91	-21.36	-21.56	-23.00	-21.47	-21.40
4900	-3.33	-2.92	-3.13	0.21	-0.87	-21.50	-22.11	-23.23	-21.85	-21.56
5000	-3.36	-2.88	-3.13	0.25	-0.85	-21.75	-22.42	-23.58	-22.08	-21.73
5100	-3.39	-2.85	-3.13	0.28	-0.84	-21.82	-23.01	-24.05	-22.39	-21.80
5200	-3.42	-2.82	-3.13	0.31	-0.82	-22.11	-23.43	-24.49	-22.72	-22.08
5300	-3.45	-2.79	-3.13	0.33	-0.81	-22.33	-23.88	-24.81	-23.12	-22.42
5400	-3.47	-2.77	-3.13	0.35	-0.79	-22.58	-24.45	-24.99	-23.48	-22.63
5500	-3.49	-2.75	-3.14	0.37	-0.78	-22.83	-24.98	-25.33	-23.73	-22.76
5600	-3.51	-2.74	-3.14	0.39	-0.80	-23.09	-25.48	-25.47	-23.93	-22.83
5700	-3.53	-2.73	-3.15	0.40	-0.79	-23.42	-25.93	-25.63	-24.22	-23.12
5800	-3.54	-2.72	-3.15	0.41	-0.77	-23.66	-26.45	-25.75	-24.53	-23.45
5900	-3.55	-2.72	-3.15	0.42	-0.78	-24.04	-27.07	-26.08	-24.68	-23.68
6000	-3.56	-2.73	-3.16	0.42	-0.75	-24.31	-27.76	-25.91	-24.99	-23.89
6100	-3.56	-2.73	-3.16	0.42	-0.68	-24.53	-28.07	-25.79	-25.19	-24.07
6200	-3.55	-2.73	-3.16	0.42	-0.62	-24.76	-28.40	-25.66	-25.48	-24.34
6300	-3.55	-2.73	-3.16	0.41	-0.50	-25.08	-29.09	-25.66	-25.63	-24.65
6400	-3.55	-2.73	-3.16	0.41	-0.42	-25.55	-29.56	-25.83	-25.73	-25.28
6500	-3.54	-2.74	-3.16	0.40	-0.35	-25.90	-30.22	-25.56	-26.10	-25.56
6600	-3.54	-2.75	-3.16	0.40	-0.28	-26.21	-30.62	-25.29	-26.29	-25.82
6700	-3.53	-2.77	-3.17	0.38	-0.22	-26.56	-30.80	-25.26	-26.41	-26.11
6800	-3.52	-2.79	-3.17	0.37	-0.16	-26.83	-30.55	-25.24	-26.40	-26.66
6900	-3.50	-2.81	-3.17	0.35	-0.06	-27.17	-30.25	-25.51	-26.32	-27.40
7000	-3.49	-2.84	-3.18	0.33	0.01	-27.36	-30.13	-25.55	-26.20	-28.15
7100	-3.47	-2.87	-3.18	0.31	0.10	-27.44	-30.09	-25.41	-26.33	-28.27
7200	-3.45	-2.90	-3.18	0.28	0.21	-27.38	-29.56	-25.42	-26.19	-28.25
7300	-3.42	-2.93	-3.18	0.25	0.32	-27.32	-28.65	-25.37	-26.01	-28.65
7400	-3.40	-2.98	-3.20	0.22	0.44	-26.88	-27.92	-25.72	-25.58	-28.89
7500	-3.37	-3.02	-3.20	0.18	0.47	-26.52	-27.19	-25.98	-25.30	-28.96
7600	-3.34	-3.07	-3.21	0.15	0.62	-26.14	-26.79	-25.94	-24.99	-28.53
7700	-3.31	-3.12	-3.22	0.11	0.76	-25.50	-26.22	-25.88	-24.74	-27.81
7800	-3.28	-3.17	-3.23	0.07	0.89	-24.86	-25.44	-25.84	-24.40	-26.92
7900	-3.24	-3.23	-3.24	0.02	1.00	-24.22	-24.44	-26.18	-23.78	-26.31
8000	-3.20	-3.29	-3.25	0.04	1.10	-23.68	-23.84	-26.23	-23.31	-25.51

* Total loss is the loss from Sum to each coupled port including the 3 dB theoretical split.

2-Way 90° Power Splitter/Combiner

QCH-83+

Typical Performance Data

Test Conditions: Input Power = +5 dbm, Temperature = +105°C, Configuration A.

Freq. (MHz)	Total Loss*			Amp. Unb.	Ph. Unb.	Isolation	Return Loss			
	(dB)			(±dB)	(deg)	(dB)	(dB)			
	Sum-Port 1	Sum-Port 2	Average	Half P-P	Rel. to 90°	Port1-Port2	Sum	Port 1	Port 2	Iso
4000	-2.85	-3.44	-3.16	0.31	-0.85	-18.57	-17.72	-18.15	-17.34	-18.09
4100	-2.91	-3.37	-3.15	0.25	-0.67	-18.72	-17.91	-18.35	-17.65	-18.39
4200	-2.96	-3.31	-3.14	0.19	-0.44	-18.94	-18.26	-18.56	-17.92	-18.66
4300	-3.01	-3.24	-3.13	0.13	-0.29	-19.31	-18.67	-18.65	-18.38	-19.17
4400	-3.06	-3.18	-3.12	0.07	-0.12	-19.63	-19.06	-18.92	-19.05	-19.54
4500	-3.12	-3.12	-3.12	0.02	-0.01	-19.95	-19.26	-19.26	-19.51	-20.17
4600	-3.16	-3.06	-3.11	0.04	0.04	-20.37	-19.63	-19.35	-19.95	-20.98
4700	-3.21	-3.02	-3.12	0.09	0.06	-20.65	-20.34	-19.89	-20.26	-21.17
4800	-3.24	-2.97	-3.11	0.13	0.16	-20.78	-20.68	-20.52	-20.62	-21.35
4900	-3.28	-2.94	-3.11	0.16	0.23	-20.93	-20.87	-20.66	-21.14	-21.86
5000	-3.32	-2.89	-3.11	0.20	0.28	-21.21	-21.03	-20.87	-21.38	-22.23
5100	-3.34	-2.87	-3.11	0.23	0.39	-21.37	-21.36	-21.24	-21.94	-22.51
5200	-3.37	-2.83	-3.11	0.26	0.48	-22.09	-21.97	-21.85	-22.72	-23.57
5300	-3.40	-2.79	-3.11	0.30	0.51	-22.92	-22.49	-21.98	-23.74	-25.04
5400	-3.42	-2.77	-3.11	0.32	0.56	-23.43	-22.98	-22.43	-24.46	-25.44
5500	-3.45	-2.75	-3.11	0.34	0.57	-24.08	-23.31	-23.16	-25.25	-26.48
5600	-3.46	-2.72	-3.11	0.36	0.53	-25.17	-23.90	-23.18	-26.53	-28.41
5700	-3.47	-2.71	-3.11	0.37	0.51	-25.80	-24.57	-23.69	-26.87	-28.87
5800	-3.48	-2.70	-3.11	0.38	0.57	-26.24	-25.34	-24.53	-27.12	-28.81
5900	-3.49	-2.70	-3.11	0.39	0.64	-26.87	-25.63	-24.91	-27.70	-29.42
6000	-3.49	-2.70	-3.11	0.39	0.55	-26.91	-26.33	-25.02	-27.82	-28.92
6100	-3.49	-2.70	-3.11	0.39	0.64	-26.88	-26.86	-25.50	-27.09	-28.36
6200	-3.50	-2.71	-3.12	0.39	0.72	-27.15	-27.88	-25.75	-27.56	-28.18
6300	-3.49	-2.69	-3.11	0.39	0.84	-27.45	-28.94	-26.27	-29.23	-28.27
6400	-3.50	-2.72	-3.13	0.39	1.13	-28.25	-29.44	-26.76	-29.61	-27.79
6500	-3.49	-2.72	-3.12	0.38	1.07	-27.94	-30.22	-27.35	-31.15	-27.77
6600	-3.48	-2.72	-3.12	0.37	1.00	-27.40	-29.48	-27.20	-33.93	-26.59
6700	-3.47	-2.75	-3.12	0.35	1.31	-26.74	-29.65	-27.65	-37.15	-25.43
6800	-3.45	-2.78	-3.13	0.33	1.34	-26.47	-30.24	-29.32	-39.26	-26.17
6900	-3.46	-2.79	-3.14	0.33	1.44	-25.63	-31.16	-30.79	-51.27	-26.15
7000	-3.42	-2.81	-3.13	0.29	1.24	-25.55	-29.41	-30.97	-47.21	-26.07
7100	-3.41	-2.87	-3.15	0.26	1.66	-26.04	-28.58	-30.49	-40.41	-25.70
7200	-3.40	-2.88	-3.15	0.25	1.80	-25.18	-28.78	-32.51	-35.96	-26.41
7300	-3.38	-2.90	-3.15	0.24	1.85	-25.48	-29.10	-31.95	-32.06	-27.40
7400	-3.34	-2.97	-3.16	0.18	1.88	-25.95	-27.97	-31.54	-30.63	-27.68
7500	-3.29	-3.00	-3.15	0.13	1.77	-24.92	-28.55	-30.16	-28.67	-28.29
7600	-3.30	-3.03	-3.17	0.12	2.28	-25.27	-28.43	-28.96	-28.48	-29.22
7700	-3.25	-3.13	-3.19	0.06	2.33	-25.28	-25.57	-28.28	-27.28	-27.35
7800	-3.22	-3.20	-3.21	0.01	2.56	-24.31	-24.17	-26.44	-24.67	-27.50
7900	-3.19	-3.25	-3.22	0.05	2.39	-24.11	-23.51	-26.44	-23.84	-29.34
8000	-3.19	-3.34	-3.27	0.08	2.90	-23.19	-23.29	-24.03	-22.43	-29.15

* Total loss is the loss from Sum to each coupled port including the 3 dB theoretical split.

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-Circuit's 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 <https://www.minicircuits.com/terms/viewterm.html>



2-Way 90° Power Splitter/Combiner

QCH-83+

Typical Performance Data

Test Conditions: Input Power = +5 dbm, Temperature = +105°C, Configuration B.

Freq. (MHz)	Total Loss*			Amp. Unb.	Ph. Unb.	Isolation	Return Loss			
	(dB)			(±dB)	(deg)	(dB)	(dB)			
	Sum-Port 1	Sum-Port 2	Average	Half P-P	Rel. to 90°	Port1-Port2	Sum	Port 1	Port 2	Iso
4000	-2.89	-3.41	-3.16	0.26	-1.63	-18.61	-18.09	-17.34	-18.15	-17.72
4100	-2.93	-3.35	-3.15	0.20	-1.49	-18.76	-18.39	-17.65	-18.35	-17.91
4200	-2.98	-3.29	-3.14	0.15	-1.29	-18.97	-18.66	-17.92	-18.56	-18.26
4300	-3.03	-3.22	-3.13	0.09	-1.15	-19.34	-19.17	-18.38	-18.65	-18.67
4400	-3.07	-3.17	-3.12	0.04	-1.02	-19.67	-19.54	-19.05	-18.92	-19.06
4500	-3.11	-3.11	-3.11	0.02	-0.95	-19.98	-20.17	-19.51	-19.26	-19.26
4600	-3.15	-3.06	-3.11	0.07	-0.85	-20.40	-20.98	-19.95	-19.35	-19.63
4700	-3.21	-3.01	-3.11	0.12	-0.77	-20.68	-21.17	-20.26	-19.89	-20.34
4800	-3.25	-2.96	-3.11	0.16	-0.66	-20.81	-21.35	-20.62	-20.52	-20.68
4900	-3.28	-2.93	-3.11	0.19	-0.64	-20.96	-21.86	-21.14	-20.66	-20.87
5000	-3.32	-2.89	-3.11	0.23	-0.61	-21.24	-22.23	-21.38	-20.87	-21.03
5100	-3.35	-2.86	-3.11	0.26	-0.56	-21.40	-22.51	-21.94	-21.24	-21.36
5200	-3.38	-2.82	-3.11	0.30	-0.47	-22.13	-23.57	-22.72	-21.85	-21.97
5300	-3.40	-2.78	-3.10	0.32	-0.45	-22.95	-25.04	-23.74	-21.98	-22.49
5400	-3.42	-2.75	-3.10	0.35	-0.41	-23.46	-25.44	-24.46	-22.43	-22.98
5500	-3.45	-2.73	-3.10	0.37	-0.47	-24.10	-26.48	-25.25	-23.16	-23.31
5600	-3.46	-2.71	-3.10	0.39	-0.42	-25.19	-28.41	-26.53	-23.18	-23.90
5700	-3.47	-2.69	-3.10	0.40	-0.48	-25.83	-28.87	-26.87	-23.69	-24.57
5800	-3.49	-2.68	-3.10	0.42	-0.46	-26.26	-28.81	-27.12	-24.53	-25.34
5900	-3.52	-2.68	-3.12	0.43	-0.42	-26.88	-29.42	-27.70	-24.91	-25.63
6000	-3.51	-2.67	-3.11	0.43	-0.46	-26.92	-28.92	-27.82	-25.02	-26.33
6100	-3.51	-2.68	-3.11	0.43	-0.48	-26.90	-28.36	-27.09	-25.50	-26.86
6200	-3.51	-2.69	-3.12	0.42	-0.36	-27.17	-28.18	-27.56	-25.75	-27.88
6300	-3.50	-2.68	-3.11	0.42	-0.44	-27.48	-28.27	-29.23	-26.27	-28.94
6400	-3.51	-2.70	-3.12	0.41	-0.03	-28.27	-27.79	-29.61	-26.76	-29.44
6500	-3.50	-2.70	-3.12	0.41	-0.18	-27.96	-27.77	-31.15	-27.35	-30.22
6600	-3.50	-2.71	-3.12	0.40	-0.12	-27.42	-26.59	-33.93	-27.20	-29.48
6700	-3.49	-2.75	-3.14	0.38	0.02	-26.78	-25.43	-37.15	-27.65	-29.65
6800	-3.47	-2.76	-3.13	0.37	0.10	-26.48	-26.17	-39.26	-29.32	-30.24
6900	-3.46	-2.79	-3.14	0.34	0.18	-25.65	-26.15	-51.27	-30.79	-31.16
7000	-3.43	-2.81	-3.13	0.33	0.07	-25.56	-26.07	-47.21	-30.97	-29.41
7100	-3.43	-2.85	-3.15	0.30	0.48	-26.08	-25.70	-40.41	-30.49	-28.58
7200	-3.41	-2.86	-3.14	0.29	0.62	-25.19	-26.41	-35.96	-32.51	-28.78
7300	-3.40	-2.88	-3.15	0.27	0.34	-25.43	-27.40	-32.06	-31.95	-29.10
7400	-3.36	-2.93	-3.15	0.22	0.61	-25.96	-27.68	-30.63	-31.54	-27.97
7500	-3.30	-2.99	-3.15	0.17	0.65	-24.96	-28.29	-28.67	-30.16	-28.55
7600	-3.32	-3.01	-3.17	0.18	0.70	-25.31	-29.22	-28.48	-28.96	-28.43
7700	-3.27	-3.06	-3.17	0.12	0.95	-25.31	-27.35	-27.28	-28.28	-25.57
7800	-3.21	-3.15	-3.18	0.04	0.88	-24.36	-27.50	-24.67	-26.44	-24.17
7900	-3.20	-3.19	-3.20	0.01	1.12	-24.09	-29.34	-23.84	-26.44	-23.51
8000	-3.18	-3.25	-3.22	0.03	1.47	-23.23	-29.15	-22.43	-24.03	-23.29

* Total loss is the loss from Sum to each coupled port including the 3 dB theoretical split.

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-Circuit's 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 <https://www.minicircuits.com/terms/viewterm.html>



2-Way 90° Power Splitter/Combiner

QCH-83+

Typical Performance Data

Test Conditions: Input Power = +5 dbm, Temperature = +105°C, Configuration C.

Freq. (MHz)	Total Loss*			Amp. Unb.	Ph. Unb.	Isolation	Return Loss			
	(dB)			(±dB)	(deg)	(dB)	(dB)			
	Sum-Port 1	Sum-Port 2	Average	Half P-P	Rel. to 90°	Port1-Port2	Sum	Port 1	Port 2	Iso
4000	-2.89	-3.42	-3.16	0.28	-0.53	-18.41	-18.15	-17.72	-18.09	-17.34
4100	-2.94	-3.36	-3.16	0.22	-0.35	-18.59	-18.35	-17.91	-18.39	-17.65
4200	-2.99	-3.30	-3.15	0.17	-0.12	-18.73	-18.56	-18.26	-18.66	-17.92
4300	-3.04	-3.23	-3.14	0.11	0.05	-18.96	-18.65	-18.67	-19.17	-18.38
4400	-3.09	-3.17	-3.13	0.05	0.21	-19.30	-18.92	-19.06	-19.54	-19.05
4500	-3.14	-3.11	-3.13	0.00	0.35	-19.61	-19.26	-19.26	-20.17	-19.51
4600	-3.19	-3.06	-3.13	0.06	0.40	-19.77	-19.35	-19.63	-20.98	-19.95
4700	-3.23	-3.00	-3.12	0.10	0.46	-20.06	-19.89	-20.34	-21.17	-20.26
4800	-3.27	-2.96	-3.12	0.14	0.64	-20.47	-20.52	-20.68	-21.35	-20.62
4900	-3.31	-2.93	-3.12	0.18	0.65	-20.58	-20.66	-20.87	-21.86	-21.14
5000	-3.34	-2.89	-3.12	0.22	0.72	-20.97	-20.87	-21.03	-22.23	-21.38
5100	-3.37	-2.86	-3.12	0.25	0.83	-21.21	-21.24	-21.36	-22.51	-21.94
5200	-3.40	-2.82	-3.12	0.28	0.98	-21.77	-21.85	-21.97	-23.57	-22.72
5300	-3.44	-2.79	-3.13	0.31	0.98	-22.16	-21.98	-22.49	-25.04	-23.74
5400	-3.46	-2.76	-3.12	0.34	1.05	-22.71	-22.43	-22.98	-25.44	-24.46
5500	-3.48	-2.74	-3.13	0.36	0.99	-23.48	-23.16	-23.31	-26.48	-25.25
5600	-3.50	-2.72	-3.13	0.38	1.07	-24.09	-23.18	-23.90	-28.41	-26.53
5700	-3.51	-2.71	-3.13	0.39	1.02	-24.50	-23.69	-24.57	-28.87	-26.87
5800	-3.52	-2.70	-3.13	0.40	1.04	-24.99	-24.53	-25.34	-28.81	-27.12
5900	-3.54	-2.70	-3.14	0.41	1.18	-25.85	-24.91	-25.63	-29.42	-27.70
6000	-3.54	-2.70	-3.14	0.41	1.05	-25.92	-25.02	-26.33	-28.92	-27.82
6100	-3.54	-2.71	-3.14	0.41	1.19	-25.96	-25.50	-26.86	-28.36	-27.09
6200	-3.54	-2.72	-3.15	0.41	1.32	-26.18	-25.75	-27.88	-28.18	-27.56
6300	-3.53	-2.71	-3.14	0.41	1.25	-26.73	-26.27	-28.94	-28.27	-29.23
6400	-3.56	-2.74	-3.17	0.40	1.68	-27.68	-26.76	-29.44	-27.79	-29.61
6500	-3.54	-2.73	-3.15	0.40	1.57	-28.16	-27.35	-30.22	-27.77	-31.15
6600	-3.53	-2.75	-3.16	0.39	1.56	-29.42	-27.20	-29.48	-26.59	-33.93
6700	-3.52	-2.78	-3.17	0.36	1.85	-30.41	-27.65	-29.65	-25.43	-37.15
6800	-3.50	-2.80	-3.16	0.35	1.99	-30.42	-29.32	-30.24	-26.17	-39.26
6900	-3.51	-2.83	-3.18	0.34	2.02	-30.33	-30.79	-31.16	-26.15	-51.27
7000	-3.47	-2.85	-3.17	0.31	1.90	-30.86	-30.97	-29.41	-26.07	-47.21
7100	-3.47	-2.89	-3.19	0.28	2.47	-30.64	-30.49	-28.58	-25.70	-40.41
7200	-3.47	-2.90	-3.19	0.27	2.48	-28.57	-32.51	-28.78	-26.41	-35.96
7300	-3.45	-2.92	-3.19	0.25	2.34	-28.02	-31.95	-29.10	-27.40	-32.06
7400	-3.41	-2.98	-3.20	0.21	2.43	-27.17	-31.54	-27.97	-27.68	-30.63
7500	-3.35	-3.04	-3.20	0.15	2.71	-26.31	-30.16	-28.55	-28.29	-28.67
7600	-3.37	-3.04	-3.21	0.15	2.82	-26.00	-28.96	-28.43	-29.22	-28.48
7700	-3.33	-3.10	-3.22	0.10	2.86	-24.87	-28.28	-25.57	-27.35	-27.28
7800	-3.28	-3.19	-3.24	0.04	3.08	-23.34	-26.44	-24.17	-27.50	-24.67
7900	-3.26	-3.24	-3.25	0.00	3.04	-23.79	-26.44	-23.51	-29.34	-23.84
8000	-3.27	-3.29	-3.28	0.03	3.56	-23.02	-24.03	-23.29	-29.15	-22.43

* Total loss is the loss from Sum to each coupled port including the 3 dB theoretical split.

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-Circuit's 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 <https://www.minicircuits.com/terms/viewterm.html>



2-Way 90° Power Splitter/Combiner

QCH-83+

Typical Performance Data

Test Conditions: Input Power = +5 dbm, Temperature = +105°C, Configuration D.

Freq. (MHz)	Total Loss*			Amp. Unb.	Ph. Unb.	Isolation	Return Loss			
	(dB)			(±dB)	(deg)	(dB)	(dB)			
	Sum-Port 1	Sum-Port 2	Average	Half P-P	Rel. to 90°	Port1-Port2	Sum	Port 1	Port 2	Iso
4000	-2.91	-3.50	-3.22	0.28	-1.94	-18.43	-17.34	-18.09	-17.72	-18.15
4100	-2.97	-3.43	-3.21	0.22	-1.79	-18.61	-17.65	-18.39	-17.91	-18.35
4200	-3.01	-3.37	-3.19	0.17	-1.61	-18.76	-17.92	-18.66	-18.26	-18.56
4300	-3.06	-3.29	-3.18	0.11	-1.49	-18.99	-18.38	-19.17	-18.67	-18.65
4400	-3.10	-3.23	-3.17	0.05	-1.35	-19.33	-19.05	-19.54	-19.06	-18.92
4500	-3.14	-3.17	-3.16	0.01	-1.31	-19.64	-19.51	-20.17	-19.26	-19.26
4600	-3.18	-3.11	-3.15	0.05	-1.21	-19.80	-19.95	-20.98	-19.63	-19.35
4700	-3.24	-3.06	-3.15	0.10	-1.16	-20.08	-20.26	-21.17	-20.34	-19.89
4800	-3.27	-3.02	-3.15	0.14	-1.13	-20.50	-20.62	-21.35	-20.68	-20.52
4900	-3.31	-2.99	-3.15	0.17	-1.03	-20.61	-21.14	-21.86	-20.87	-20.66
5000	-3.34	-2.94	-3.14	0.22	-1.03	-21.00	-21.38	-22.23	-21.03	-20.87
5100	-3.37	-2.91	-3.15	0.24	-0.99	-21.23	-21.94	-22.51	-21.36	-21.24
5200	-3.41	-2.88	-3.15	0.28	-0.95	-21.80	-22.72	-23.57	-21.97	-21.85
5300	-3.43	-2.85	-3.15	0.30	-0.92	-22.19	-23.74	-25.04	-22.49	-21.98
5400	-3.45	-2.82	-3.15	0.33	-0.89	-22.74	-24.46	-25.44	-22.98	-22.43
5500	-3.48	-2.80	-3.15	0.35	-0.88	-23.51	-25.25	-26.48	-23.31	-23.16
5600	-3.49	-2.78	-3.15	0.37	-0.94	-24.11	-26.53	-28.41	-23.90	-23.18
5700	-3.51	-2.77	-3.16	0.38	-0.98	-24.52	-26.87	-28.87	-24.57	-23.69
5800	-3.53	-2.76	-3.16	0.40	-0.92	-25.01	-27.12	-28.81	-25.34	-24.53
5900	-3.56	-2.77	-3.18	0.41	-0.95	-25.87	-27.70	-29.42	-25.63	-24.91
6000	-3.56	-2.77	-3.18	0.41	-0.95	-25.94	-27.82	-28.92	-26.33	-25.02
6100	-3.55	-2.77	-3.18	0.40	-1.03	-25.97	-27.09	-28.36	-26.86	-25.50
6200	-3.55	-2.76	-3.17	0.40	-0.95	-26.18	-27.56	-28.18	-27.88	-25.75
6300	-3.55	-2.76	-3.17	0.41	-0.84	-26.74	-29.23	-28.27	-28.94	-26.27
6400	-3.56	-2.79	-3.19	0.40	-0.57	-27.68	-29.61	-27.79	-29.44	-26.76
6500	-3.55	-2.78	-3.18	0.39	-0.67	-28.17	-31.15	-27.77	-30.22	-27.35
6600	-3.55	-2.79	-3.19	0.39	-0.66	-29.43	-33.93	-26.59	-29.48	-27.20
6700	-3.54	-2.83	-3.20	0.37	-0.49	-30.43	-37.15	-25.43	-29.65	-27.65
6800	-3.53	-2.85	-3.20	0.35	-0.54	-30.42	-39.26	-26.17	-30.24	-29.32
6900	-3.51	-2.86	-3.20	0.34	-0.38	-30.33	-51.27	-26.15	-31.16	-30.79
7000	-3.50	-2.89	-3.21	0.31	-0.57	-30.91	-47.21	-26.07	-29.41	-30.97
7100	-3.49	-2.95	-3.23	0.28	-0.31	-30.65	-40.41	-25.70	-28.58	-30.49
7200	-3.48	-2.97	-3.23	0.27	-0.05	-28.71	-35.96	-26.41	-28.78	-32.51
7300	-3.46	-2.98	-3.23	0.25	-0.09	-28.07	-32.06	-27.40	-29.10	-31.95
7400	-3.42	-3.06	-3.24	0.20	0.10	-27.21	-30.63	-27.68	-27.97	-31.54
7500	-3.37	-3.09	-3.23	0.15	-0.27	-26.31	-28.67	-28.29	-28.55	-30.16
7600	-3.39	-3.13	-3.26	0.15	0.18	-26.06	-28.48	-29.22	-28.43	-28.96
7700	-3.34	-3.22	-3.28	0.07	0.46	-24.91	-27.28	-27.35	-25.57	-28.28
7800	-3.26	-3.29	-3.28	0.01	0.37	-23.38	-24.67	-27.50	-24.17	-26.44
7900	-3.26	-3.35	-3.31	0.03	0.52	-23.83	-23.84	-29.34	-23.51	-26.44
8000	-3.24	-3.43	-3.34	0.08	0.84	-23.03	-22.43	-29.15	-23.29	-24.03

* Total loss is the loss from Sum to each coupled port including the 3 dB theoretical split.

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 <https://www.minicircuits.com/terms/viewterm.html>

