

2-WAY RF POWER SPLITTERS / COMBINERS

1 Model Overview

Part #	max. power [W]	frequency range [MHz]	typical mid-band performance							
			S21 above 3 dB [dB]	S31 above 3 dB [dB]	Amplitude unbalance [dB]	Phase unbalance [°]	Isolation [dB]	SWR Port 1	SWR Port 2	SWR Port 3
TBRFPS1	2	0.1 - 800	-0.5	-0.6	0.1	0.1	23	1.2	1.2	1.2
TBRFPS4	0.5	5 - 3000	-0.6	-0.9	-0.3	0.5	21	2.0	2.0	2.0

Table 1: Model Overview

2 Mechanical data

Connectors: N-Female

Housing: brushed aluminium, 56 x 27 x 22 mm, 130 g

Mounting: 2 x Ø 3 mm through holes, 50 mm center to center spacing

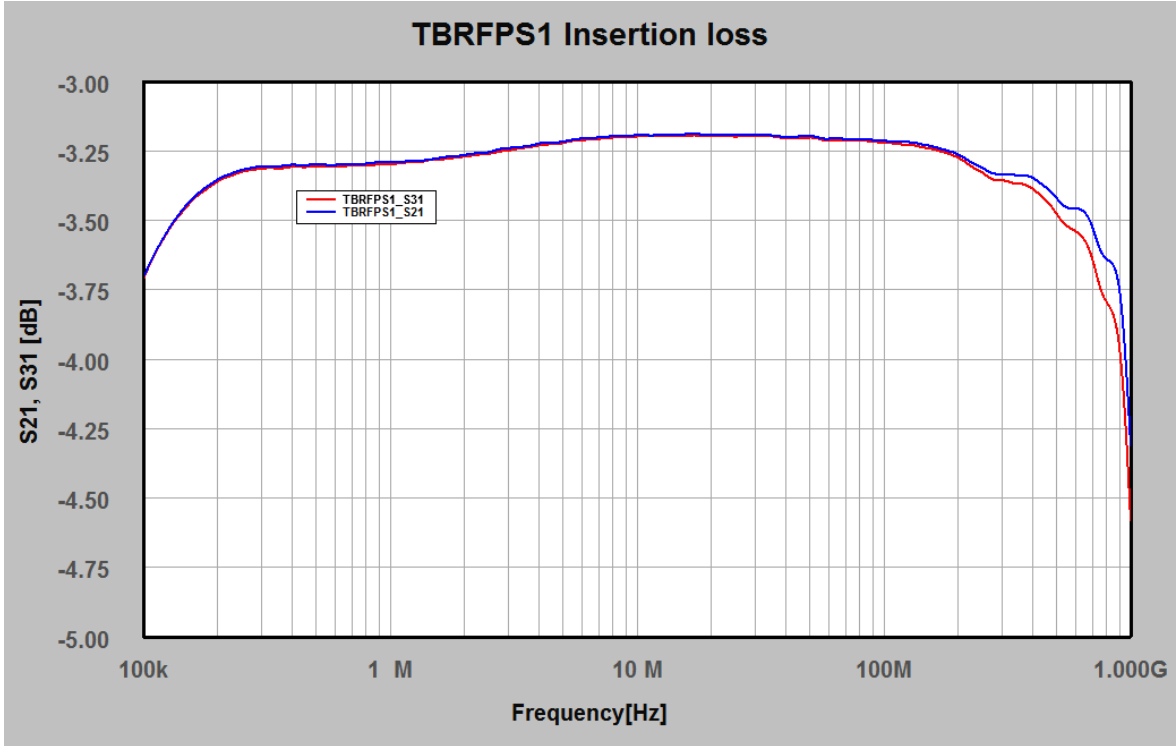


3 TBRFPS1 data

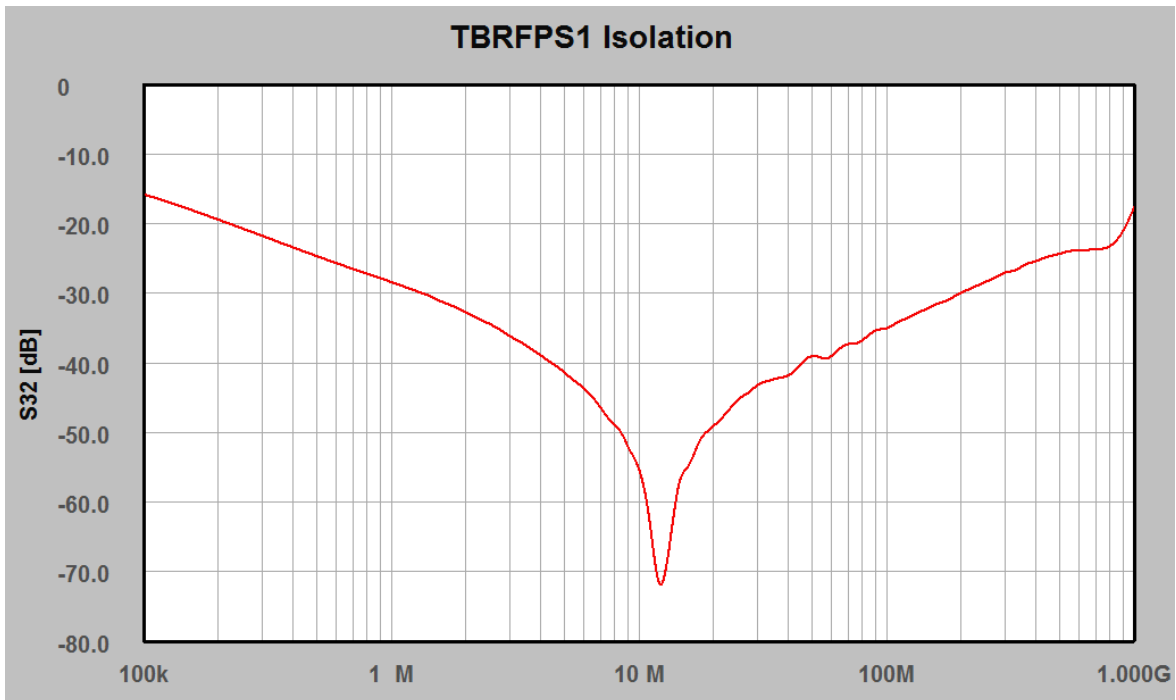
Frequency [MHz]	S21 above 3 dB [dB]	S31 above 3 dB [dB]	Amplitude unbalance [dB]	Phase unbalance [°]	Isolation [dB]	SWR Port 1	SWR Port 2	SWR Port 3
0.1	-0.78	-0.78	0	0.02	16.01	1.46	2.38	2.39
0.25	-0.37	-0.37	0	0.01	20.71	1.19	1.62	1.62
0.5	-0.31	-0.31	0	0.02	24.74	1.12	1.39	1.39
0.75	-0.29	-0.29	0	0.02	26.93	1.1	1.31	1.32
1	-0.28	-0.28	0	0.02	28.74	1.1	1.27	1.28
5	-0.17	-0.17	0	0.003	41.4	1.1	1.15	1.15
10	-0.16	-0.15	0.01	0	55.34	1.11	1.13	1.13
50	-0.2	-0.2	0	0.03	39.14	1.12	1.13	1.13
100	-0.21	-0.23	0.02	0.04	35.12	1.12	1.13	1.13
150	-0.23	-0.23	0	0.06	32.08	1.12	1.13	1.13
200	-0.29	-0.32	0.03	0.07	30.04	1.13	1.13	1.13
250	-0.27	-0.28	0.01	0.03	28.97	1.13	1.13	1.13
300	-0.33	-0.36	0.03	0.01	27.44	1.13	1.13	1.13
350	-0.42	-0.45	0.03	0.02	26.24	1.14	1.13	1.13
400	-0.36	-0.38	0.02	0.04	25.51	1.14	1.13	1.12
450	-0.42	-0.48	0.06	0.02	24.82	1.15	1.13	1.12
500	-0.42	-0.52	0.1	0.11	24.42	1.16	1.13	1.12
550	-0.45	-0.56	0.11	0.15	24.02	1.17	1.13	1.11
600	-0.51	-0.63	0.12	0.11	23.9	1.18	1.13	1.11
650	-0.52	-0.63	0.11	0.19	23.86	1.1	1.13	1.11
700	-0.59	-0.73	0.14	0.43	23.73	1.11	1.13	1.11
750	-0.61	-0.79	0.18	0.55	23.66	1.25	1.13	1.11
800	-0.73	-0.95	0.22	0.63	23.28	1.29	1.15	1.12
850	-0.76	-1.03	0.27	0.78	22.45	1.34	1.16	1.13
900	-0.85	-1.13	0.28	0.98	21.2	1.41	1.19	1.16
950	-1.13	-1.45	0.32	1.21	19.57	1.51	1.23	1.2
1000	-1.27	-1.52	0.25	1.34	17.73	1.66	1.29	1.24

Table 2: typical TBRFPS1 data

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TBRFPS1, insertion loss, 100 kHz – 1 GHz,



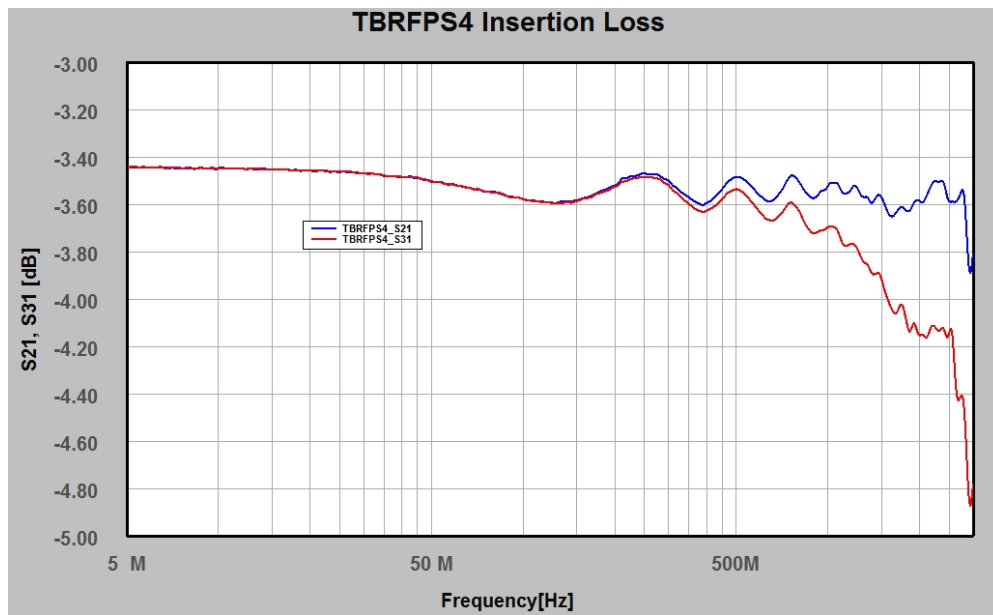
TBRFPS1, isolation, 100 kHz – 1 GHz

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4 TBRFPS4 data

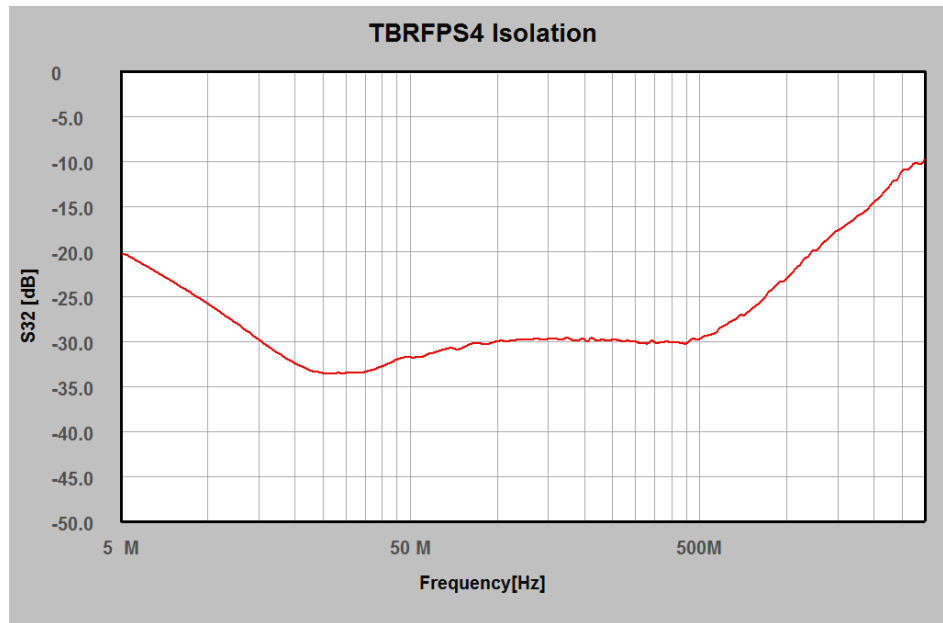
Frequency [MHz]	S21 above 3 dB [dB]	S31 above 3 dB [dB]	Amplitude unbalance [dB]	Phase unbalance [°]	Isolation [dB]	SWR Port 1	SWR Port 2	SWR Port 3
5	-0.45	-0.45	0	0.11	12.3	1.97	1.93	1.94
7.5	-0.45	-0.45	0	0.07	16.5	1.97	1.93	1.94
10	-0.45	-0.45	0	0.03	20.9	1.97	1.94	1.94
20	-0.56	-0.56	0	0.02	30.5	1.97	1.94	1.94
40	-0.48	-0.48	0	0.02	31.9	1.97	1.92	1.92
60	-0.52	-0.52	0	0.01	30.7	1.97	1.89	1.9
80	-0.55	-0.55	0	0.03	29.9	1.97	1.89	1.89
100	-0.58	-0.58	0	0.02	29.6	1.97	1.88	1.89
200	-0.52	-0.53	0.01	0.02	29.5	1.97	1.88	1.89
400	-0.6	-0.63	0.03	0.15	29.7	1.99	1.88	1.89
600	-0.57	-0.64	0.07	0.18	28.3	2.02	1.88	1.9
800	-0.5	-0.63	0.13	0.1	25.3	2.05	1.88	1.92
1000	-0.52	-0.7	0.18	0.81	22.5	2.07	1.88	1.95
1200	-0.53	-0.77	0.24	0.14	19.9	2.08	1.92	2
1400	-0.59	-0.89	0.3	0.33	17.9	2.08	1.96	2.07
1600	-0.65	-1.02	0.37	0.54	16.4	2.06	2.02	2.17
1800	-0.63	-1.08	0.45	0.83	15.2	2.01	2.1	2.3
2000	-0.59	-1.16	0.57	1.1	13.9	1.96	2.19	2.45
2100	-0.57	-1.17	0.6	1.36	13.3	1.93	2.22	2.52
2200	-0.51	-1.12	0.61	1.48	12.8	1.9	2.31	2.61
2300	-0.5	-1.13	0.63	1.56	12.1	1.88	2.32	2.75
2400	-0.51	-1.13	0.62	1.61	11.5	1.84	2.32	2.77
2500	-0.59	-1.15	0.56	1.88	11.6	1.81	2.32	2.81
2600	-0.59	-1.26	0.67	2.11	10.6	1.79	2.32	2.84
2700	-0.57	-1.43	0.86	2.5	10.8	1.77	2.32	2.87
2800	-0.56	-1.41	0.85	2.39	9.3	1.75	2.3	2.87
2900	-0.86	-1.82	0.96	3.01	10.1	1.75	2.26	2.85
3000	-0.8	-1.78	0.98	3.35	9.9	1.74	2.22	2.8

Table 3: TBRFPS4 typical data



TBRFPS4, insertion loss, 5 MHz – 3 GHz, typical data

2-WAY RF POWER SPLITTERS / COMBINERS



TBRFPS4, isolation, 5 MHz – 3 GHz, typical data

5 Ordering Information

Part Number	Description
TBRFPS1	2-way RF power splitter / combiner, 100 kHz – 800 MHz, 2W, N-connectors
TBRFPS4	2-way RF power splitter / combiner, 5 MHz – 3 GHz, 0.5W, N-connectors

6 History

Version	Date	Author	Changes
V1.0	9.6.2022	Mayerhofer	Creation of the document
V1.1	11.3.2022	Mayerhofer	Chapter 5 corrected

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