

130 MHz – 6000 MHz Logarithmic Periodic Measurement Antenna

1 Introduction

The TBMA11 is an affordable logarithmic-periodic measurement antenna for radiated emission measurements.

The TBMA11 is characterized from 130 MHz to 6000 MHz and has VSWR and antenna factor values typical for logarithmic-periodic measurement antennas.



2 Product overview

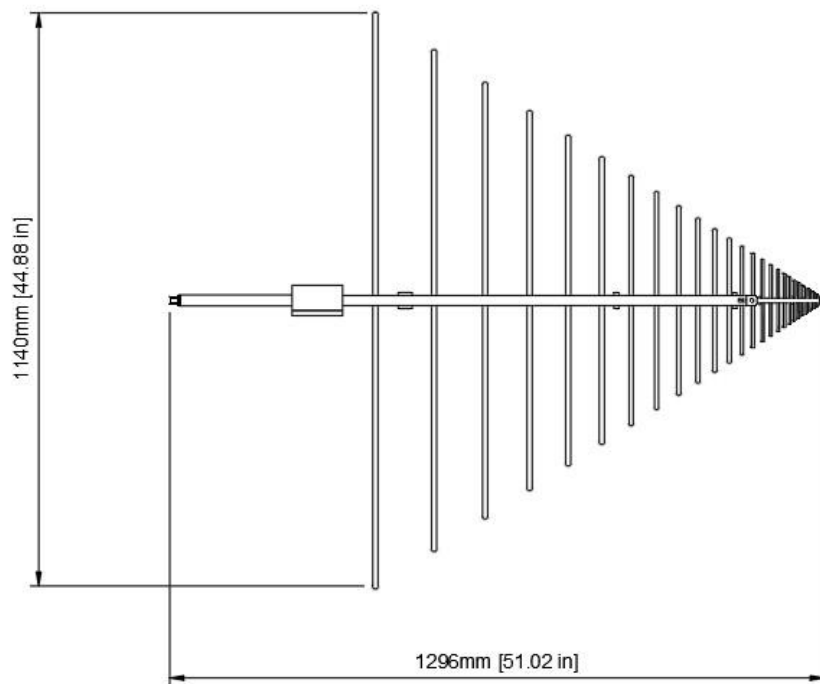
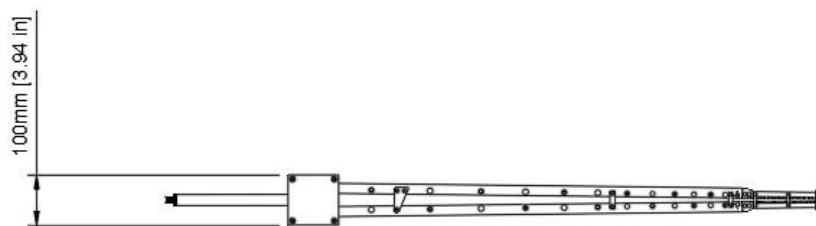
The TBMA11 is an average sized logarithmic periodic antenna, with its radiating elements and supporting booms made from aluminium. It is equipped with a standard female N-connector. The antenna provides a 22mm diameter mounting shaft. A suitable fiberglass tripod, model TBTP5 and mounting adapter TBMA8-PAT are available as optional accessories.

The TBMA11 is shipped in a robust carrying case.

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3 Technical Specifications

Type	logarithmic periodic
Frequency range	130 MHz– 6000 MHz
VSWR	< 2.1:1 over the entire frequency range ; 1.45:1 average
Isotropic gain at 3m spacing	4 8.5 dBi
Antenna factor at 3m spacing	7... 41 dB/m
Maximum continuous input RF power	130W
Nominal impedance	50 Ω
RF Connector	N type female
Mounting	22 mm diameter mounting shaft (tube)
Mechanical Dimensions	L x W x H: 1296 mm x 1140 mm x 100 mm (51.02" x 44.88" x 3.94")
Weight	3.3 kg (7.27 lbs)



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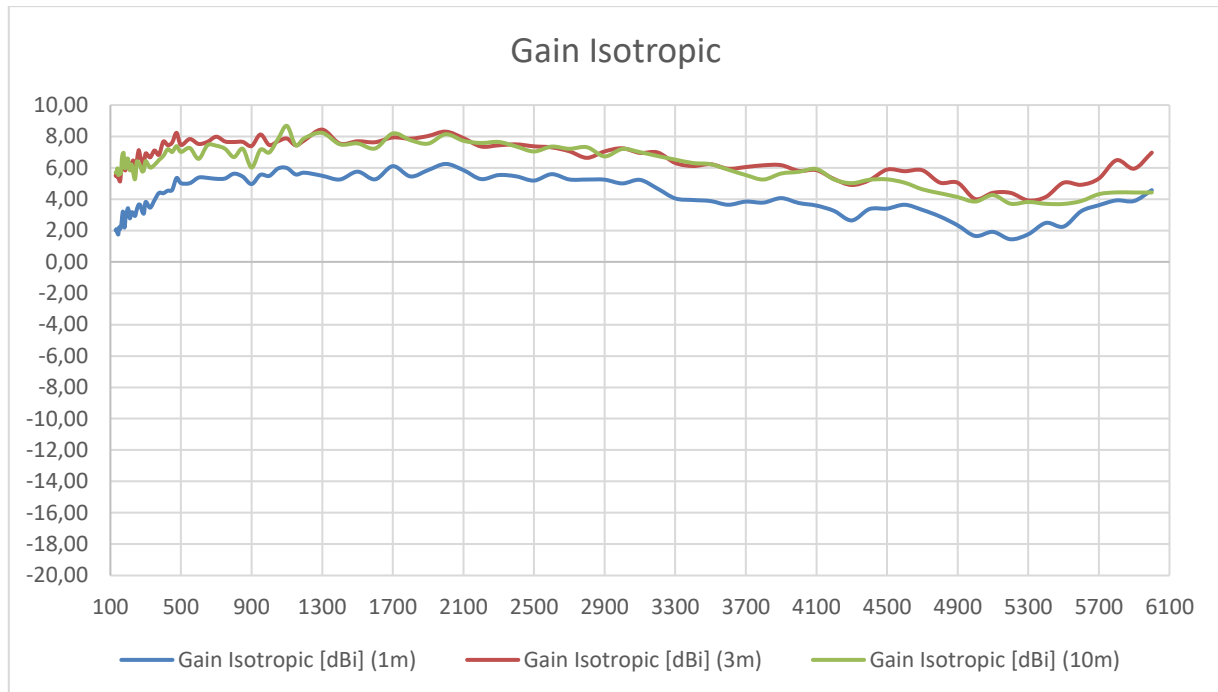
4 Gain & Antenna Factor versus frequency

Frequency	Isotropic Gain (10m, ref. to Antenna Center)	Antenna Factor (10m, ref. to Antenna Center)	Isotropic Gain (3m, ref. to Antenna Center)	Antenna Factor (3m, ref. to Antenna Center)	Isotropic Gain (1m, ref to Antenna Tip)	Antenna Factor (1m, ref to Antenna Tip)
MHz	dBi	dB/m	dBi	dB/m	dBi	dB/m
130	5.69	6.81	5.49	7.01	2.01	10.49
135	5.71	7.11	5.64	7.19	2.08	10.75
140	5.97	7.18	5.42	7.72	1.83	11.31
145	5.54	7.90	5.35	8.10	1.75	11.69
150	5.65	8.09	5.22	8.53	2.21	11.54
155	5.60	8.42	5.14	8.89	2.09	11.93
160	5.66	8.64	5.66	8.64	2.23	12.07
165	6.57	7.99	5.99	8.57	2.69	11.88
170	6.89	7.93	6.27	8.56	3.20	11.63
175	6.95	8.13	6.22	8.86	3.11	11.97
180	6.15	9.18	5.95	9.38	2.18	13.14
185	5.97	9.59	5.84	9.73	2.71	12.85
190	6.53	9.26	6.05	9.74	3.00	12.79
200	6.57	9.67	6.17	10.08	3.42	12.82
210	5.84	10.83	6.29	10.37	2.78	13.89
220	6.21	10.85	6.20	10.87	3.15	13.91
230	5.64	11.81	6.46	11.00	3.10	14.35
240	5.29	12.53	5.72	12.10	2.93	14.89
250	6.40	11.78	6.42	11.76	3.35	14.82
260	6.31	12.21	7.12	11.40	3.65	14.87
270	6.10	12.74	6.69	12.16	3.61	15.23
280	5.77	13.40	6.43	12.73	3.22	15.95
290	5.85	13.62	6.18	13.29	3.09	16.38
300	6.42	13.34	6.92	12.85	3.82	15.94
325	6.02	14.44	6.66	13.79	3.46	17.00
350	6.19	14.91	7.10	14.00	3.94	17.17
375	6.50	15.20	6.83	14.87	4.39	17.31
400	6.76	15.51	7.67	14.59	4.38	17.88
425	7.19	15.60	7.45	15.34	4.54	18.25
450	7.01	16.27	7.61	15.68	4.58	18.70
475	7.38	16.37	8.23	15.52	5.35	18.41
500	7.01	17.19	7.46	16.74	5.02	19.18
550	7.26	17.76	7.83	17.19	5.02	20.01
600	6.57	19.21	7.52	18.26	5.38	20.41
650	7.44	19.04	7.66	18.82	5.36	21.12
700	7.41	19.71	7.98	19.14	5.29	21.83
750	7.21	20.51	7.68	20.05	5.32	22.40
800	6.68	21.60	7.65	20.64	5.62	22.66
850	7.21	21.59	7.65	21.16	5.43	23.37
900	6.02	23.29	7.39	21.91	4.96	24.34
950	7.15	22.62	8.12	21.65	5.55	24.22
1000	6.98	23.24	7.45	22.77	5.48	24.74
1050	7.84	22.80	7.70	22.95	5.96	24.69
1100	8.67	22.37	7.87	23.18	5.99	25.06
1150	7.43	24.00	7.43	24.00	5.58	25.86
1200	7.89	23.91	7.76	24.05	5.69	26.12
1300	8.23	24.27	8.43	24.06	5.49	27.01
1400	7.50	25.64	7.54	25.60	5.26	27.89

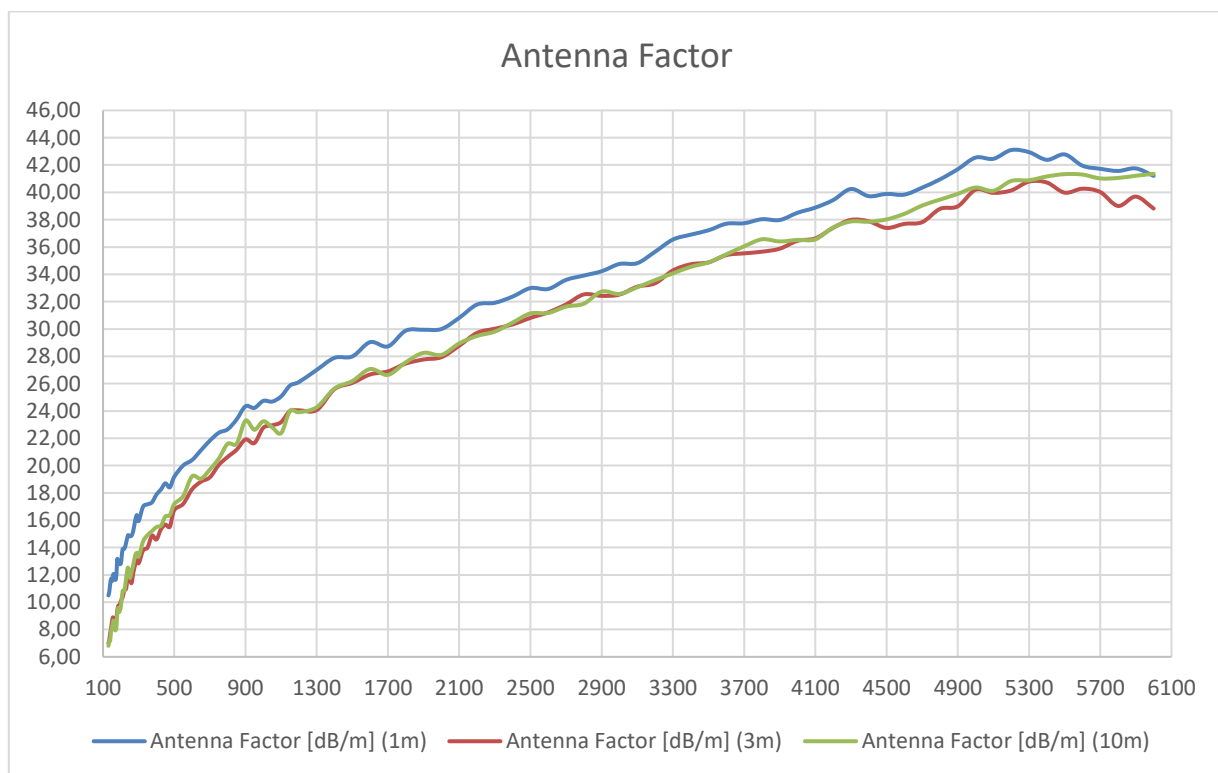
130 MHz – 6000 MHz Logarithmic Periodic Measurement Antenna

Frequency MHz	Isotropic Gain (10m, ref. to Antenna Center) dBi	Antenna Factor (10m, ref. to Antenna Center) dB/m	Isotropic Gain (3m, ref. to Antenna Center) dBi	Antenna Factor (3m, ref. to Antenna Center) dB/m	Isotropic Gain (1m, ref to Antenna Tip) dBi	Antenna Factor (1m, ref to Antenna Tip) dB/m
1500	7.56	26.19	7.69	26.05	5.75	27.99
1600	7.23	27.07	7.63	26.67	5.26	29.04
1700	8.19	26.64	7.93	26.89	6.10	28.72
1800	7.76	27.56	7.86	27.47	5.45	29.88
1900	7.54	28.25	8.03	27.77	5.85	29.94
2000	8.14	28.10	8.31	27.93	6.25	29.99
2100	7.72	28.94	7.89	28.77	5.85	30.81
2200	7.58	29.49	7.36	29.71	5.28	31.79
2300	7.65	29.81	7.44	30.02	5.54	31.92
2400	7.36	30.47	7.49	30.33	5.45	32.37
2500	7.04	31.14	7.37	30.81	5.18	32.99
2600	7.35	31.17	7.30	31.22	5.59	32.93
2700	7.21	31.64	7.05	31.79	5.26	33.59
2800	7.31	31.85	6.63	32.53	5.25	33.91
2900	6.73	32.74	7.05	32.42	5.24	34.23
3000	7.20	32.57	7.24	32.52	5.00	34.76
3100	7.00	33.05	6.95	33.10	5.23	34.82
3200	6.75	33.57	6.98	33.34	4.67	35.65
3300	6.52	34.07	6.31	34.28	4.05	36.54
3400	6.30	34.55	6.11	34.74	3.95	36.90
3500	6.23	34.87	6.23	34.87	3.88	37.22
3600	5.88	35.47	5.94	35.40	3.64	37.70
3700	5.53	36.05	6.05	35.54	3.84	37.74
3800	5.25	36.56	6.16	35.66	3.78	38.03
3900	5.63	36.41	6.17	35.88	4.07	37.98
4000	5.74	36.52	5.81	36.45	3.75	38.51
4100	5.92	36.55	5.85	36.63	3.59	38.89
4200	5.25	37.43	5.28	37.40	3.25	39.43
4300	5.02	37.87	4.90	37.98	2.64	40.25
4400	5.24	37.85	5.21	37.88	3.37	39.72
4500	5.26	38.02	5.89	37.40	3.40	39.89
4600	5.05	38.43	5.78	37.69	3.64	39.83
4700	4.63	39.04	5.84	37.82	3.32	40.35
4800	4.38	39.47	5.05	38.79	2.89	40.95
4900	4.13	39.89	5.05	38.98	2.33	41.69
5000	3.85	40.35	4.01	40.19	1.65	42.55
5100	4.26	40.11	4.41	39.97	1.91	42.46
5200	3.71	40.83	4.40	40.14	1.44	43.10
5300	3.82	40.89	3.92	40.79	1.76	42.94
5400	3.70	41.16	4.15	40.72	2.49	42.38
5500	3.69	41.33	5.05	39.98	2.25	42.78
5600	3.88	41.30	4.92	40.27	3.23	41.95
5700	4.32	41.02	5.32	40.02	3.61	41.72
5800	4.43	41.06	6.48	39.01	3.92	41.57
5900	4.42	41.21	5.95	39.69	3.88	41.75
6000	4.43	41.36	6.97	38.81	4.58	41.21

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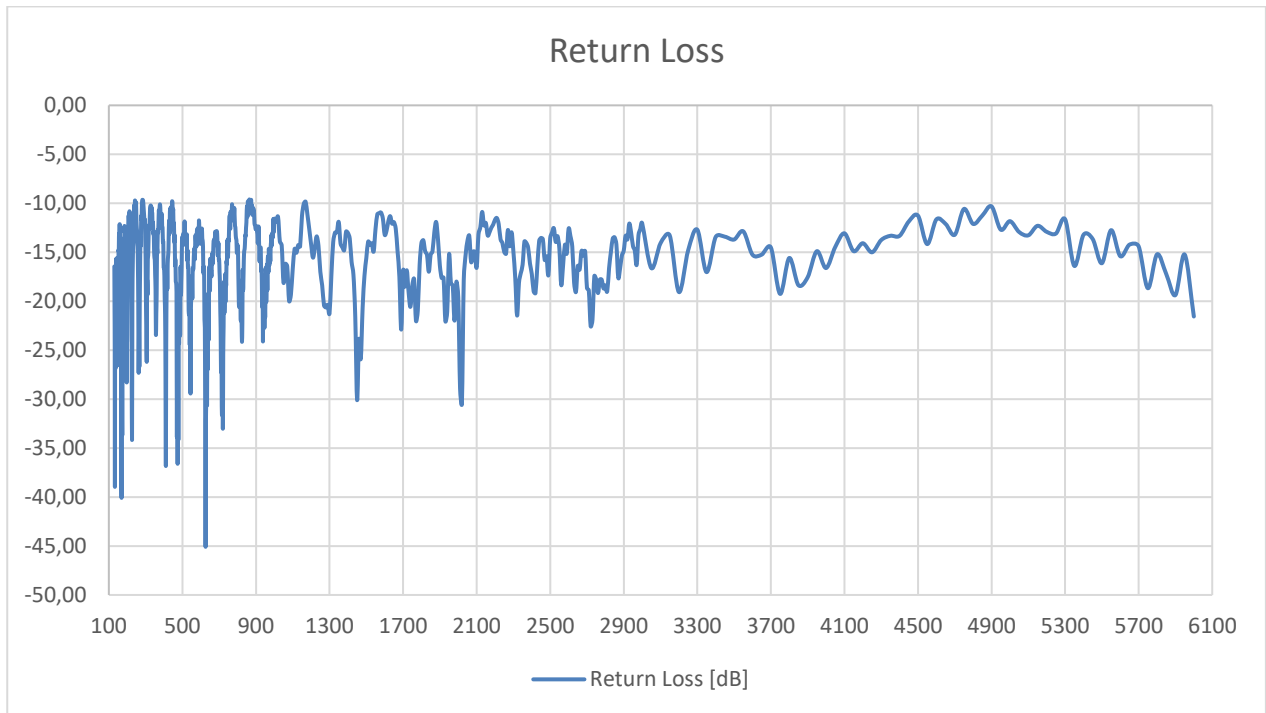
130 MHz ... 6000 MHz, Isotropic Gain of TBMA11



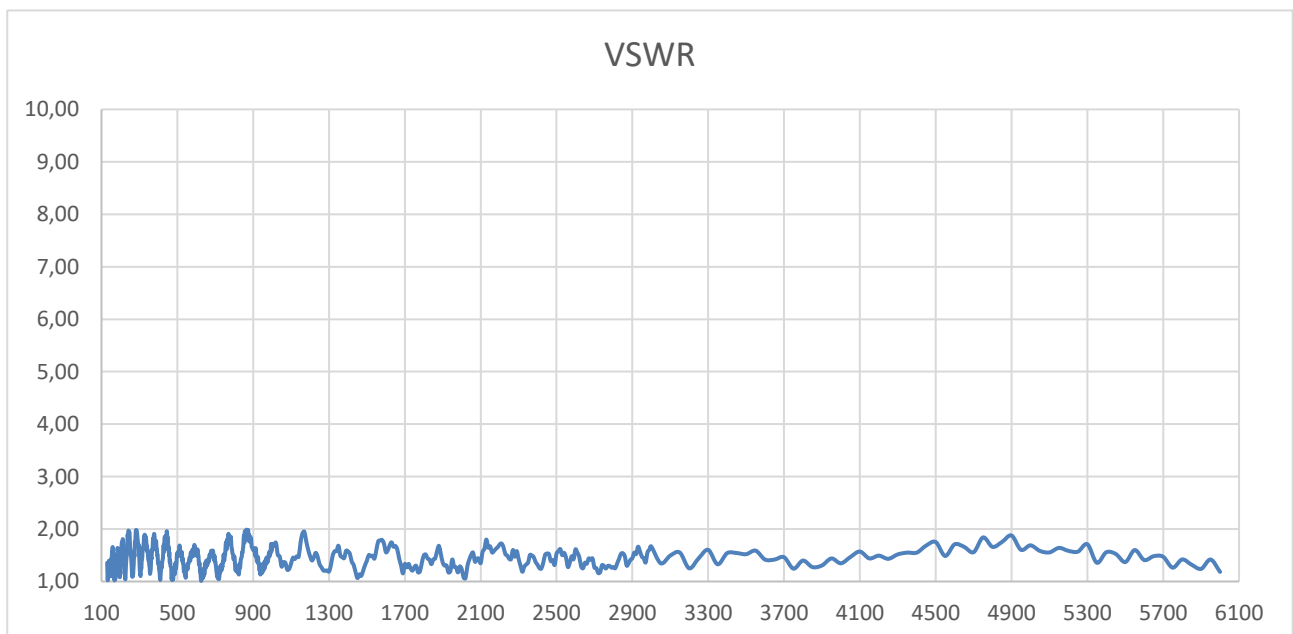
130 MHz ... 6000 MHz, Antenna Factor of TBMA11

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5 TBMA12 Return Loss / VSWR



TBMA11, S11, 130 MHz ... 6000 MHz



TBMA11, VSWR, 130 MHz ... 6000 MHz

VSWR, Gain and AF in tabular form is provided on our website.

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4 Optional Tripods and mounting brackets



TBMA11 on TBTP5 tripod; using TBMA8-PAT mounting bracket

5 Ordering Information

Part Number	Description
TBMA11	30 – 6000 MHz log periodic measurement antenna , carrying case, individual factory calibration using NIST traceable equipment

Accessories

Part Number	Description
TBTP5	Fiberglass tripod
TBMA8-PAT	Mounting bracket for TBMA12, TBMA11, TBMA8, TBMA7; for 22 mm antenna shafts, clamps sideways to 30 mm tripod shafts

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6 History

Version	Date	Author	Changes
V1.0	23.04.2026	Mayerhofer	Creation of the document