

RF CURRENT MONITORING PROBE

1 Introduction

The TBCP1-150 is a fixed aperture RF current monitoring probe, expanding the Tekbox product range of affordable EMC pre-compliance test equipment.

The probe has a 3dB bandwidth of approximately 150 MHz and is characterized and usable over the frequency range from 10kHz to 250 MHz.



The aperture of the RF current monitoring probe is 25 mm. Its transfer impedance is > 14 dB Ohm in the range from 100 kHz to 150 MHz.

RF CURRENT MONITORING PROBE

2 Specification

Characterized frequency range: 10 kHz to 250 MHz
Aperture diameter: 25 mm
Outside diameter: 76 mm
Height: 31 mm
Weight: 320 g
Connector type: N female
Transfer impedance: -6 to 18 dBΩ
Max. primary current (DC - 400 Hz): 80 A
Max. primary current (RF): 3 A
Max. core temperature: 125 °C

3 Transfer impedance

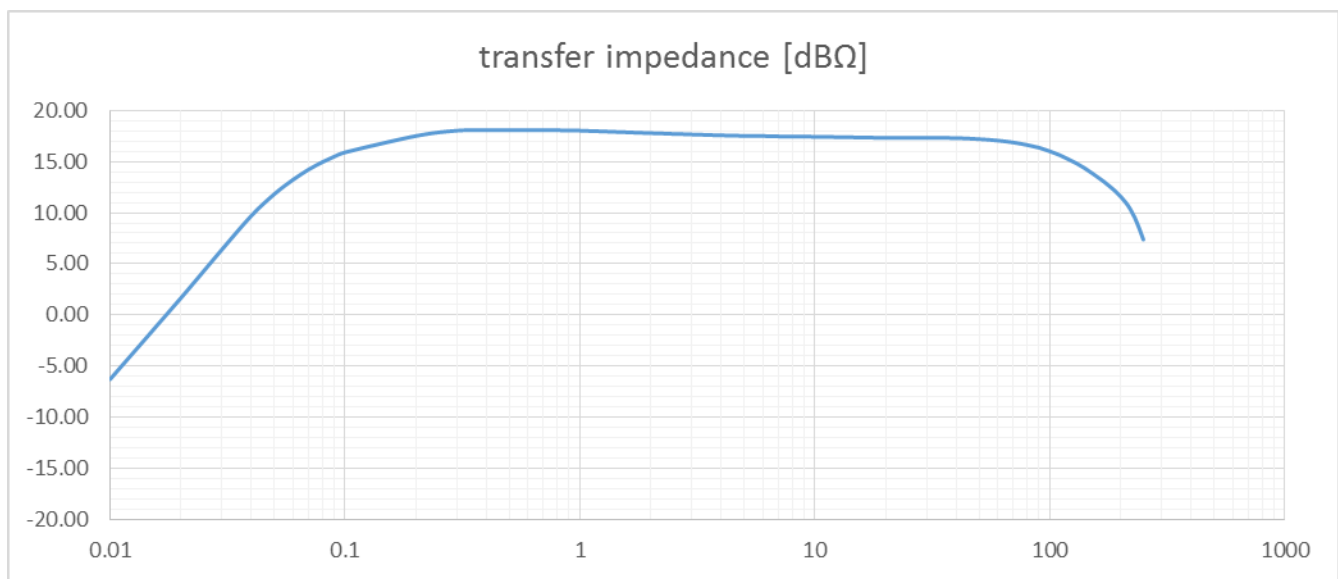


Figure1: Transfer impedance: 10 kHz to 250 MHz

4 Typical transfer impedance

The table below shows typical transfer impedance data of a TBCP-150 current probe. Each current probe is delivered with its corresponding measurement protocol. This data can be used for the creation of a correction file for EMCview or similar EMC measurement software. The transfer impedance in dBΩ subtracted from the analyzer reading in dBμV gives the corrected reading in dBμA.

Refer to the application notes of EMCview on how to create a current probe correction file.

RF CURRENT MONITORING PROBE

Frequency [MHz]	transfer impedance [dBΩ]	Frequency [MHz]	transfer impedance [dBΩ]
0.01	-6.29	9	17.44
0.02	1.66	10	17.43
0.03	6.44	20	17.33
0.04	9.73	30	17.32
0.05	11.83	40	17.30
0.06	13.22	50	17.20
0.07	14.23	60	17.06
0.08	14.95	70	16.87
0.09	15.49	80	16.63
0.1	15.91	90	16.36
0.2	17.51	100	16.01
0.3	18.03	110	15.64
0.4	18.08	120	15.23
0.5	18.08	130	14.82
0.6	18.08	140	14.39
0.7	18.08	150	13.93
0.8	18.07	160	13.47
0.9	18.04	170	13.03
1	18.03	180	12.57
2	17.79	190	12.11
3	17.66	200	11.59
4	17.57	210	11.02
5	17.52	220	10.35
6	17.51	230	9.50
7	17.47	240	8.47
8	17.46	250	7.37

Table1: Transfer impedance: 10 kHz to 250 MHz

5 Ordering Information

Part Number	Description
TBCP1-150	Fixed aperture RF current monitoring probe, beech-wood box, calibration protocol

6 History

Version	Date	Author	Changes
V 1.0	9.09.2018	Mayerhofer	Creation of the document

www.tekbox.com

TekBox Digital Solutions Vietnam Pte. Ltd.

Factory 4, F5, Lot I-3B-1, Saigon Hi-Tech Park, Tan Phu Ward, District 9, Ho Chi Minh City, Vietnam