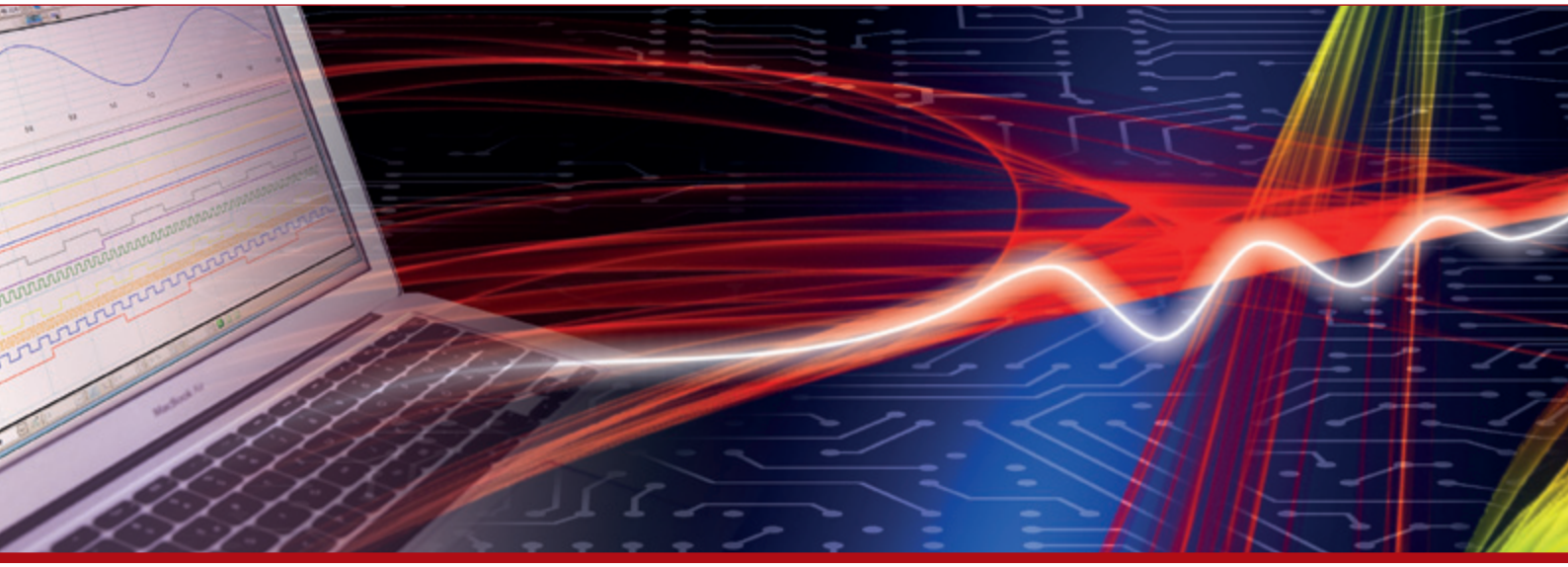
Product Datasheet - Technical Specifications



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RF CURRENT MONITORING PROBE

1 Introduction

The TBCP2-750 is a snap-on RF current monitoring probe, expanding the Tekbox product range of affordable EMC pre-compliance test equipment.
The probe has a very flat response with a 3dB bandwidth of 750 MHz and is characterized and usable over the frequency range from 10kHz to 750 MHz.

Picture 1: TBCP2-750 RF current monitoring probe

The aperture of the RF current monitoring probe is 32 mm. Its transfer impedance is > 15 dB Ohm in the range from 1 MHz to 750 MHz.

RF CURRENT MONITORING PROBE

2 Specification

Characterized frequency range: 10 kHz to 750 MHz
Aperture diameter: 32 mm
Outside diameter: 73 mm
Height: 20 mm
Weight: 320 g
Connector type: N female
Transfer impedance: 0 to 22 dBΩ between 150 kHz and 750 MHz
Max. primary current (DC - 400 Hz): 80 A
Max. primary current (RF): 3 A
Max. core temperature: 125 °C

3 Transfer impedance

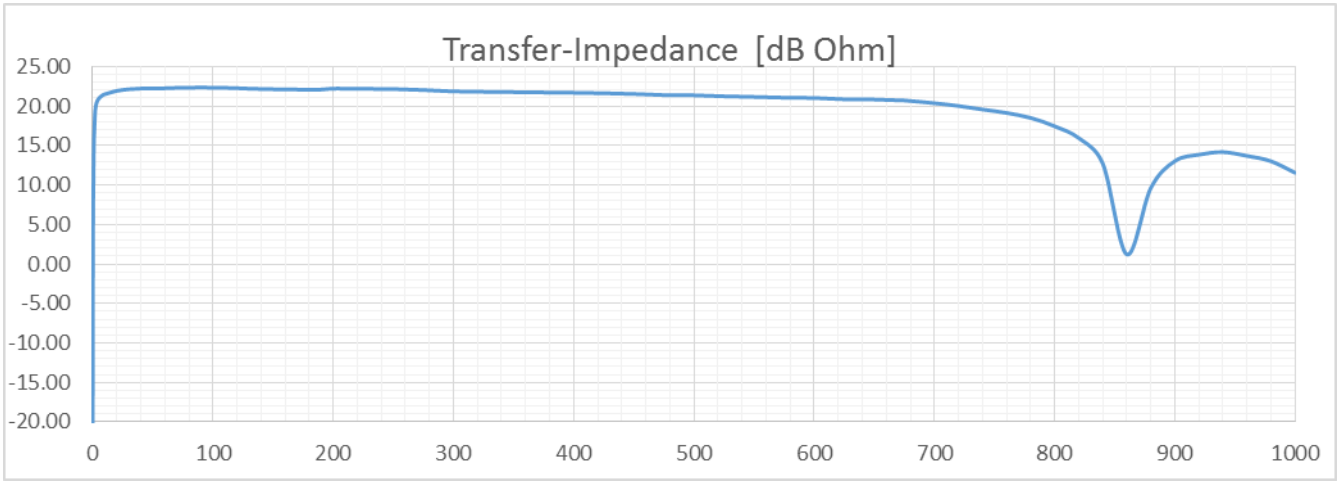


Figure1: typical transfer impedance: 10 kHz to 1 GHz, linear

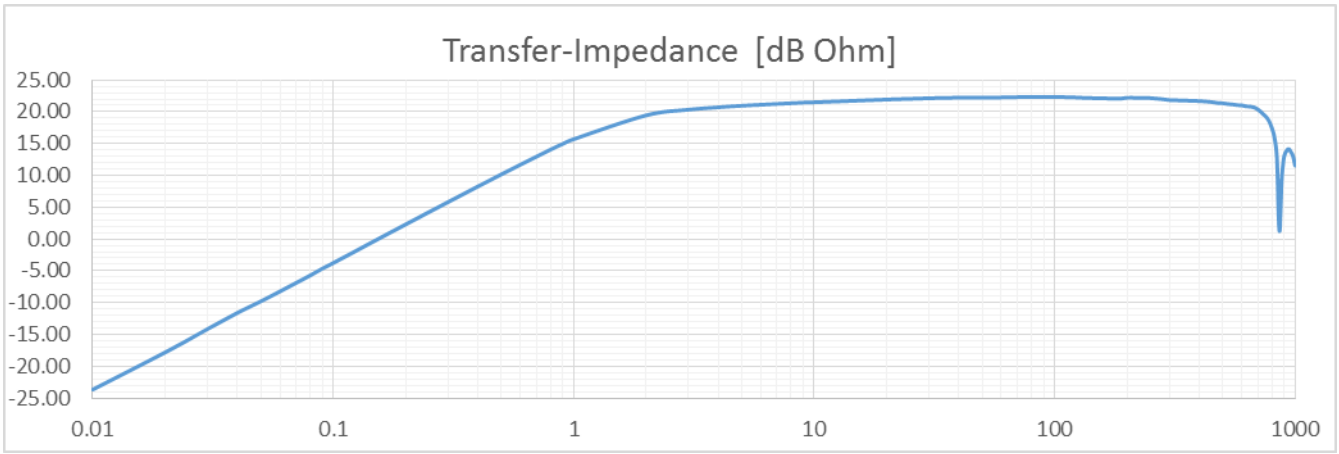


Figure2: typical transfer impedance: 10 kHz to 1 GHz, logarithmic

4 Typical transfer impedance table

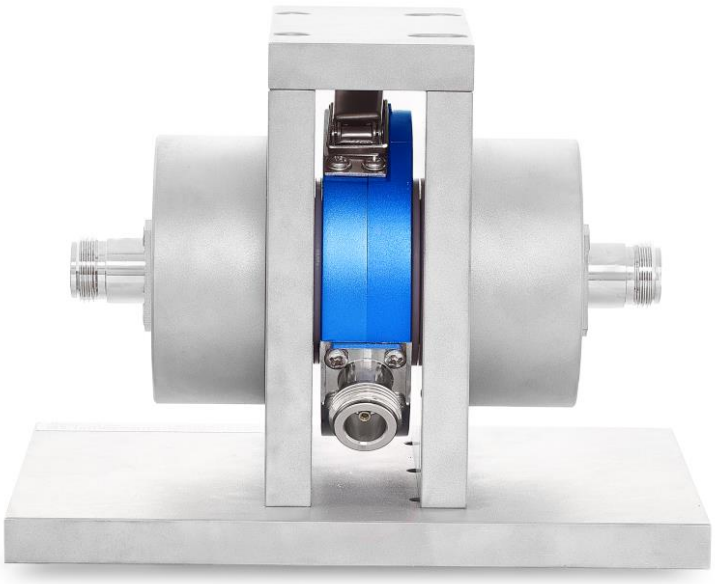
The table below shows typical transfer impedance data of a TBCP2-750 current probe. Each current probe is delivered with its corresponding measurement protocol. This data can be used for the creation of a correction file for EMCview or similar EMC measurement software. The transfer impedance in dBΩ subtracted 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.

Frequency [MHz]	transfer impedance [dBΩ]	Frequency [MHz]	transfer impedance [dBΩ]
0.01	-23.65	150	22.14
0.02	-17.81	160	22.12
0.03	-14.14	170	22.10
0.04	-11.58	180	22.06
0.05	-9.78	190	22.10
0.06	-8.23	200	22.21
0.07	-6.89	225	22.19
0.08	-5.73	250	22.16
0.09	-4.65	275	22.04
0.1	-3.75	300	21.86
0.2	2.31	325	21.81
0.3	5.81	350	21.77
0.4	8.28	375	21.73
0.5	10.17	400	21.69
0.6	11.70	425	21.63
0.7	12.96	450	21.54
0.8	14.06	475	21.40
0.9	14.97	500	21.36
1	15.71	525	21.24
2	19.45	550	21.16
3	20.34	575	21.07
4	20.73	600	21.03
5	20.96	625	20.87
6	21.12	650	20.84
7	21.25	675	20.71
8	21.35	700	20.37
9	21.46	720	20.02
10	21.51	740	19.57
20	21.93	760	19.14
30	22.14	780	18.51
40	22.23	800	17.45
50	22.25	820	15.95
60	22.26	840	12.73
70	22.31	860	1.22
80	22.33	880	9.65
90	22.35	900	13.04
100	22.33	920	13.85
110	22.31	940	14.17
120	22.27	960	13.70
130	22.21	980	13.02
140	22.17	1000	11.55

Table1: Transfer impedance: 10 kHz to 1 GHz

5 Accessory

Tekbox supplies a calibrator corresponding with the TBCP2 series of snap on current probes:



Picture 2: TBCP2-CAL RF current probe calibration fixture

6 Ordering Information

Part Number	Description
TBCP2-750	Snap on RF current monitoring probe, beech-wood box, calibration protocol
TBCP2-CAL	Calibration fixture for TBCP2 current probe series

7 History

Version	Date	Author	Changes
V 1.0	7.12.2020	Mayerhofer	Creation of the preliminary document
V 1.1	28.1.2021	Mayerhofer	Photo update