

ZN30303 Radiating Loop and ZN30304 Loop Sensor

DATA SHEET | 20 Hz-100 kHz | RS101 magnetic-field susceptibility

1. Product Overview

The ZN30303 generates the test magnetic field and the ZN30304 measures the field for calibration. The operating range is 20 Hz-100 kHz. The supplied manual describes RS101 magnetic-field susceptibility testing over 25 Hz-100 kHz. Confirm the applicable test method and limits for the project.



2. Technical Specifications

Parameter	ZN30303 radiating loop	ZN30304 loop sensor
Operating frequency	20 Hz-100 kHz	20 Hz-100 kHz
Loop diameter	120 mm	40 mm
Turns	20	51
Wire	Φ2.0 mm enamelled wire	7 × Φ0.07 mm stranded insulated wire
Shielding	-	Electrostatic
Reference data	1 kHz current vs. field table, page 2	Complete correction factors, page 3

3. Supplied Configuration

Item	Quantity
ZN30303 radiating loop / ZN30304 loop sensor	1 each
BNC-BNC test cable, 1 m	1
BNC-terminal test cable, 1 m	1
User manual / certificate of conformity	1 each

Performance Curves and Radiating-Loop Data

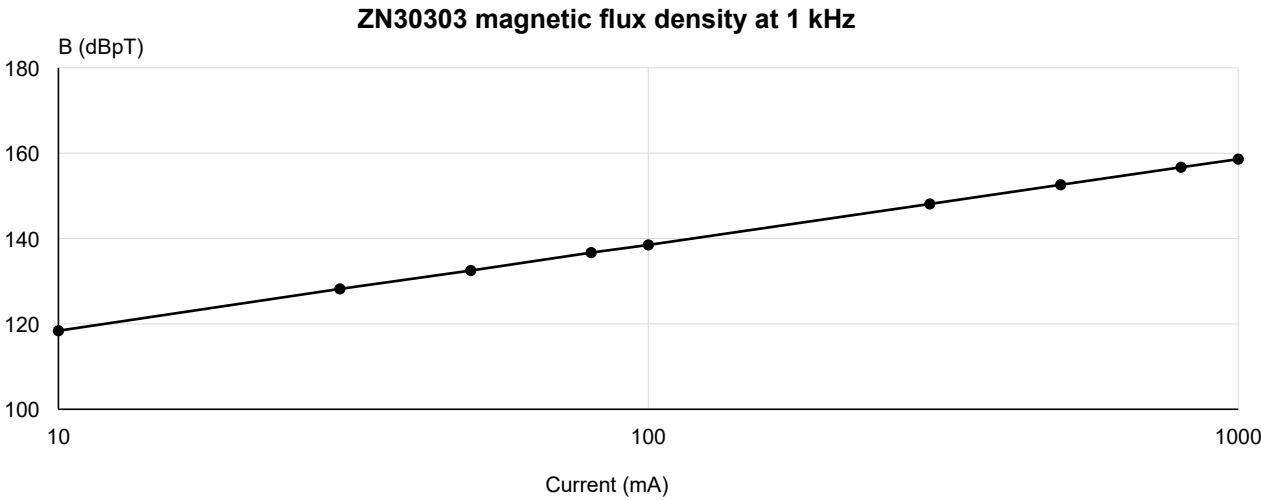
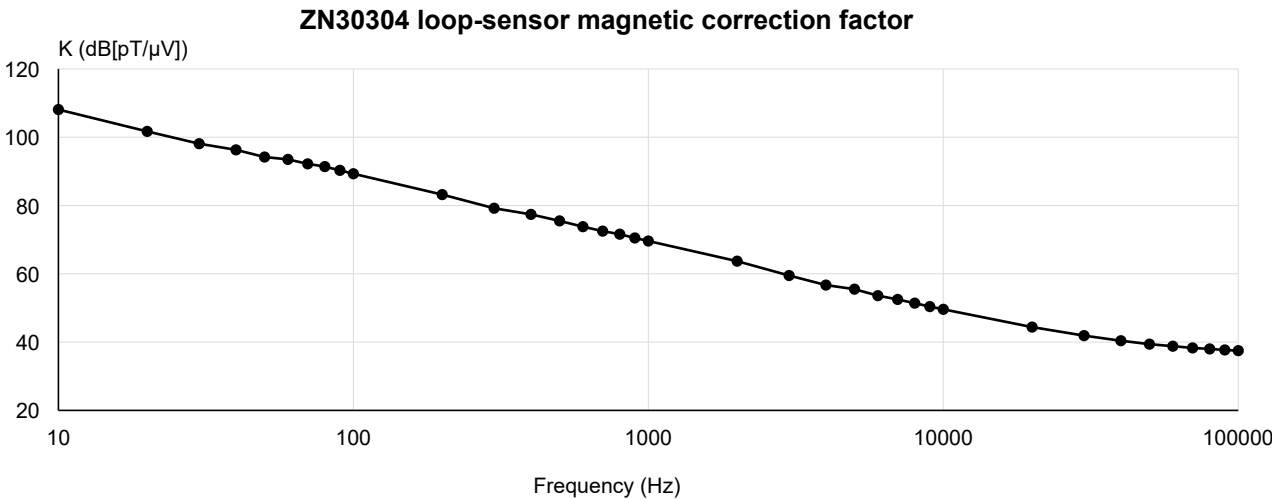


Table 1. ZN30303 at 1 kHz (all 9 source points)

Current (mA)	Field (dBpT)
10	118.4
30	128.2
50	132.5
80	136.7
100	138.5
300	148.1
500	152.6
800	156.7
1000	158.6



Curves connect all original manual data points; no additional measured points are inferred. The retained 10 Hz reference point does not extend the specified operating range below 20 Hz.

Complete Sensor Factors and Application Notes

Table 2. ZN30304 magnetic correction factors (all 37 source points)

Frequency (Hz)	K (dB[pT/μV])	Frequency (Hz)	K (dB[pT/μV])
10	108.1	2000	63.7
20	101.7	3000	59.5
30	98.1	4000	56.7
40	96.3	5000	55.5
50	94.2	6000	53.6
60	93.5	7000	52.5
70	92.2	8000	51.4
80	91.4	9000	50.4
90	90.3	10000	49.6
100	89.3	20000	44.4
200	83.2	30000	41.9
300	79.2	40000	40.4
400	77.4	50000	39.4
500	75.5	60000	38.8
600	73.8	70000	38.3
700	72.5	80000	38
800	71.6	90000	37.7
900	70.5	100000	37.5
1000	69.6		

4. Calibration and Test Notes

$$B \text{ (dBpT)} = U_B \text{ (dBμV)} + K$$

B is magnetic flux density, U_B is the reading of receiver B, and K is the tabulated magnetic correction factor. Calibrate at a loop-to-sensor spacing of 50 mm and record receiver A. Reproduce that reading when applying the calibrated field.

Position the radiating loop parallel to the EUT surface at 50 mm. Follow the full manual for scanning, susceptibility-location searches and retesting. The manual limits excitation current to 15 A during this procedure. Determine test levels, scan conditions and limits from the applicable method and complete instructions.

5. Warranty and Contact

Warranty: 18 months from shipment, subject to the transport and use conditions stated in the manual.

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