

## Network analyzer calibration kits

### Description and purpose

N3M kits are used for calibration of scalar and vector network analyzers in 7.0/3.04 mm and 3.5/1.52 coaxial paths. The kits include mismatched loads and attenuators. Each load may be used as VSWR standard or as reflection standard. Attenuators are used as transmission coefficient standards. Selected rated values of calibration kit elements provide testing of wide variety of analyzers. Each accessory of the kit is described in table – transmission coefficient or reflection coefficient vs. frequency. Description files are stored on CD or USB flash drive supplied with the kit. Description procedure is performed with vector network analyzer. To achieve high repeatability of measurements for connected accessories, the kit includes torque wrench and support wrench. Bodies and nuts of loads and attenuators are made of stainless steel, and central conductors are made of tempered beryllium bronze. All central conductors are plated with wear-proof gold. Low dielectric permeability and high strength insulation is applied.



### N3M-01 calibration kit

No.	Model	Description	Quantity, pcs
1	D2M-18-10-01R-01	Coaxial attenuator, type III (female) – type III (male), rated attenuation 10 dB	1
2	D2M-18-20-01R-01	Coaxial attenuator, type III (female) – type III (male), rated attenuation 20 dB	1
3	D2M-18-30-01R-01	Coaxial attenuator, type III (female) – type III (male), rated attenuation 30 dB	1
4	NR1-18-01	Mismatched load, type III (male), VSWR 1.2	1
5	NR3-18-01	Mismatched load, type III (male), VSWR 2.0	1
6	NR1-18-01R	Mismatched load, type III (female), VSWR 1.2	1
7	NR3-18-01R	Mismatched load, type III (female), VSWR 2.0	1
<b>Other accessories</b>			
8	KT-4	Torque wrench for type N and type III connectors	1
9	KP-2	Support open-end wrench for type N and type III connectors	1
10	Manual		1

### N3M-11 calibration kit

No.	Model	Description	Quantity, pcs.
1	D2M-18-10-11R-11	Coaxial attenuator, type N (female) – type N (male), rated attenuation 10 dB	1
2	D2M-18-20-11R-11	Coaxial attenuator, type N (female) – type N (male), rated attenuation 20 dB	1
3	D2M-18-30-11R-11	Coaxial attenuator, type N (female) – type N (male), rated attenuation 30 dB	1
4	NR1-18-11	Mismatched load, type N (male), VSWR 1.2	1
5	NR3-18-11	Mismatched load, type N (male), VSWR 2.0	1
6	NR1-18-11R	Mismatched load, type N (female), VSWR 1.2	1

No.	Model	Description	Quantity, pcs.
7	NR3-18-11R	Mismatched load, type N (female), VSWR 2.0	1

**Other accessories**

8	KT-4	Torque wrench for type N and type III connectors	1
9	KP-2	Support open-end wrench for type N and type III connectors	1
10	Manual		1
11	Digital data storage containing calibration data		1
12	Wooden case		1

**N3M-03 calibration kit**

No.	Model	Description	Quantity, pcs
1	D2M-32-10-03R-03	Coaxial attenuator, type IX, ver. 3 (female) – type IX, ver. 3 (male), rated attenuation 10 dB	1
2	D2M-32-20-03R-03	Coaxial attenuator, type IX, ver. 3 (female) – type IX, ver. 3 (male), rated attenuation 20 dB	1
3	D2M-32-30-03R-03	Coaxial attenuator, type IX, ver. 3 (female) – type IX, ver. 3 (male), rated attenuation 30 dB	1
4	NR1-20-03	Mismatched load, type IX, ver. 3 (male), VSWR 1.2	1
5	NR3-20-03	Mismatched load, type IX, ver. 3 (male), VSWR 2.0	1
6	NR1-20-03R	Mismatched load, type IX, ver. 3 (female), VSWR 1.2	1
7	NR3-20-03R	Mismatched load, type IX, ver. 3 (female), VSWR 2.0	1

**Other accessories**

8	KT-2	Torque wrench for 2.4 mm; 2.92 mm; 3.5 mm; type IX, ver. 3 connectors	1
9	KP-1	Support open-end wrench for 2.4 mm; 2.92 mm; 3.5 mm; type IX, ver. 3 connectors	1
10	Manual		1
11	Digital data storage containing calibration data		1
12	Wooden case		1

**N3M-13 calibration kit**

No.	Model	Description	Quantity, pcs
1	D2M-32-10-13R-13	Coaxial attenuator, 3.5 mm (female) – 3.5 mm (male), rated attenuation 10 dB	1
2	D2M-32-20-13R-13	Coaxial attenuator, 3.5 mm (female) – 3.5 mm (male), rated attenuation 20 dB	1
3	D2M-32-30-13R-13	Coaxial attenuator, 3.5 mm (female) – 3.5 mm (male), rated attenuation 30 dB	1
4	NR1-20-13	Mismatched load, 3.5 mm (male), VSWR 1.2	1
5	NR3-20-13	Mismatched load, 3.5 mm (male), VSWR 2.0	1
6	NR1-20-13R	Mismatched load, 3.5 mm (female), VSWR 1.2	1
7	NR3-20-13R	Mismatched load, 3.5 mm (female), VSWR 2.0	1

**Other accessories**

8	KT-2	Torque wrench for 2.4 mm; 2.92 mm; 3.5 mm; type IX, ver. 3 connectors	1
9	KP-1	Support open-end wrench for 2.4 mm; 2.92 mm; 3.5 mm; type IX, ver. 3 connectors	1
10	Manual		1
11	Digital data storage containing calibration data		1
12	Wooden case		1

**Ordering example**

- N3M-01 Calibration kit with type III connectors.