narda
Safety Test Solutions

Datasheet | **SMARTS AMC**

SMARTS Area Monitor Compact

Efficient, versatile and safe

Narda has expanded its portfolio of EMF monitoring solutions with the introduction of a compact and flexible device that can be integrated into existing systems and local area networks.

Featuring an innovative design, SMARTS AMC offers continuous detection of RF radiation, enabling the ongoing monitoring of potentially hazardous areas and ensuring compliance with industry and government standards.

ITU-T K.83 compliant

Advantages of SMARTS AMC

- Quick and easy installation on wall/ceiling or standalone with tripod
- Flat and shaped probes, up to 60 GHz, compliant with various safety standards for both occupational and public limits
- Standalone or network capabilities with logging and warning functions
- Multiple data transmission interfaces: USB-C, optical fiber, Wi-Fi, Bluetooth, and Ethernet (no SIM card required)
- Integrated sensors for GPS, barometer, temperature, air humidity, accelerometer, and compass
- Excellent shielding properties, ensuring accurate measurements even with high field strength
- Environmental protection options: model /00 with IP42 for indoor use (lab, school, hospital) or model /01 with IP65 for harsh environments (subway, street lamps, etc.).

Interchangeable probes

Interchangeable probes offer versatile adaptability to various application needs, enabling seamless operation even during recalibration periods. This uninterrupted continuity ensures the system's responsiveness and reliability over time. The digital probe interface eliminates the need to calibrate the main device.

To optimize performance, the probes can be calibrated in three different ways.

Standard calibration is suitable for many environments. For example, it ensures the correct functioning of alarm devices and/or sensors when an extremely high level of precision is not required, offering an efficient trade off between accuracy and cost.

Individual calibration is personalized to meet the specific requirements of a particular application, for example inside an accredited laboratory, ensuring an optimal level of accuracy.

Accredited calibration will be necessary when the application requires low uncertainty and the field frequency is known. In this case, the uncertainty corresponds to that specific to the probe at the given frequency.

The choice of three different calibrations, at any time, allows for flexible adaptation to various requirements, ensuring that calibration not only optimizes performance but also complies with the specific quality and regulatory requirements of the application in question.

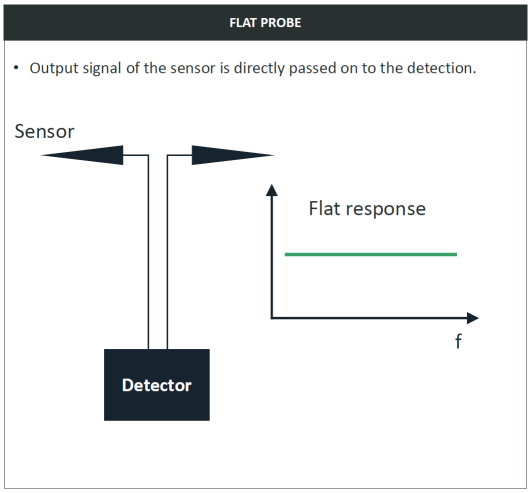
All probes include on board A/D conversion, calibration factors on E2PROM, and temperature sensor.

Flat and shaped probes

Flat probes are versatile instruments used in scientific and technical fields. With their wide frequency range, they can measure a broad spectrum of signals and properties. Broadband flat probes maintain consistent sensitivity across various frequencies, ensuring accurate and precise measurements.

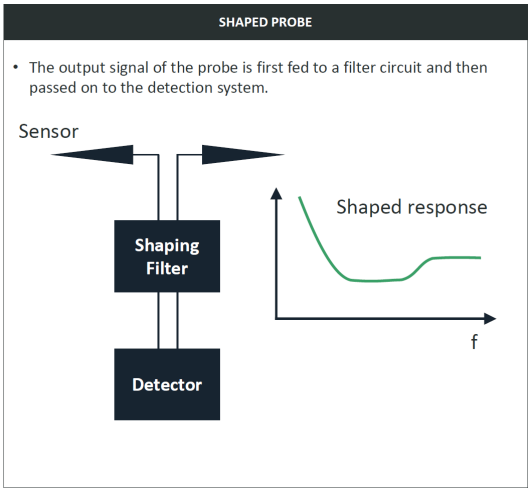
Shaping filters in the probes ensure that all services are evaluated according to the standard, e.g. directly compliant with ICNIRP, FCC or SC6, regardless of their frequencies, which is a patented function unique to these devices.

Weighting filters in the sensors simulate the frequency response of the standard and they ensure that the alarm thresholds (settable by user's) are correct over the entire frequency range.



Benefits of a "shaped" probe:

- Selectivity is not necessary, shaping ensures automatic standard compliant evaluation over the entire frequency range of the probe
- Standard compliance by means of shaped frequency response
- Direct reading in % of standard for both E & H field
- Shaped probes for several standards available (ICNIRP, SC6 and FCC)
- Direct reading for both occupational and general public limit values
- Works perfectly even in a multi frequency environment
- Economical alternative to selective measuring devices



Probes / Application	EHP-2B-05	EHP-2B-06	EHP-2B-07	EHP-2B-08	EP-1B-09	EP-1B-10	EP-1B-11	EP-1B-12
Mobile communications	●	●	●	●	●	●	●	●
Radio / TV broadcasting	●	●	●	●	●	●	●	●
Directional radio	●	●	●	●	●	●	●	●
Satellite communications		●		●		●		
Industry	●	●	●	●	●		●	
Radar	●	●	●	●		●	●	●
Frequency range up to* (GHz)	E: 9.25 H: 1	E: 60 H: 1	E: 9.25 H: 1	E: 60 H: 1	8	40	12.5	18
Field type (isotropic sensors)	E & H	E & H	E & H	E & H	E	E	E	E
Band type	Shaped ICNIRP 98 SC6	Shaped ICNIRP 98 SC6	Shaped ICNIRP 20 FCC	Shaped ICNIRP 20 FCC	Flat	Flat	Flat	Flat

* details on technical specifications are available in the following pages

Versatility and Environmental Adaptability

In addition to its various communication ports, AMC's DB15 user port makes it even more versatile by allowing threshold conditioning and the connection of external devices, like interlock and others.

The threshold conditioning feature empowers users to fine-tune and customize the sensitivity levels, ensuring precise performance tailored to their specific needs.

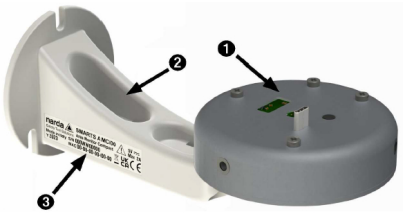
Additionally, the user port facilitates the connection of external devices, such as the Device Under Test (DUT), doors interlock, and external alarms. Input and output signals are optocoupled or relays protected and there is a +5 V, 150 mA max protected input/output supply. This capability expands the functionality of AMC units, enabling seamless integration with a variety of external components.

The alarms are integrated into the equipment, so no external accessories are required. The different types of alarms (acoustic, vibrating, and visual) are transmitted according to the different applications.

With threshold conditioning and the ability to connect external devices, the user port is a comprehensive solution that meets each user's unique requirements while providing a high degree of customization and integration for diverse applications.

To complement this versatility, AMC units offer robust environmental options. Model /00 provides IP42 protection, and model /01 offers IP65 protection and various types of connections.

SMARTS AMC/00 Wall support bracket and interface



Wall support bracket and AMC Interface (top view)

Legend:

1. AMC Interface
2. Wall bracket
3. Identification label with Serial number, MAC address and safety note

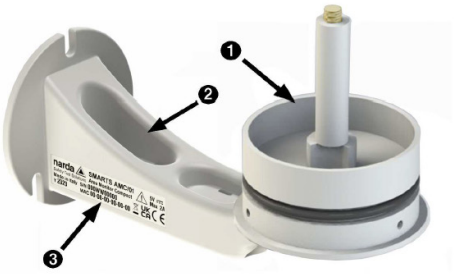
AMC Interface Connectors detail (bottom view)

Legend:

1. User Port (see upcoming paragraph)
2. USB-C connector
3. Fiber Optic window
4. Ethernet 10/100 BaseT RJ45 connector (PoE ready)
5. ON/OFF button

USB-C can be used as an alternative to PoE

SMARTS AMC/01 Wall support bracket and interface



Wall support bracket and AMC Interface (top view)

Legend:

1. AMC Interface
2. Wall bracket
3. Identification label with Serial number, MAC address and safety note

AMC Interface Connectors detail (bottom view)

Legend:

1. Gland for USB-C cable only or Gland for both USB-C and FO-AMC01 Fiber optic cable

Installation options for quick or comprehensive surveys

SMARTS AMC is suitable for long, medium and short term surveys.

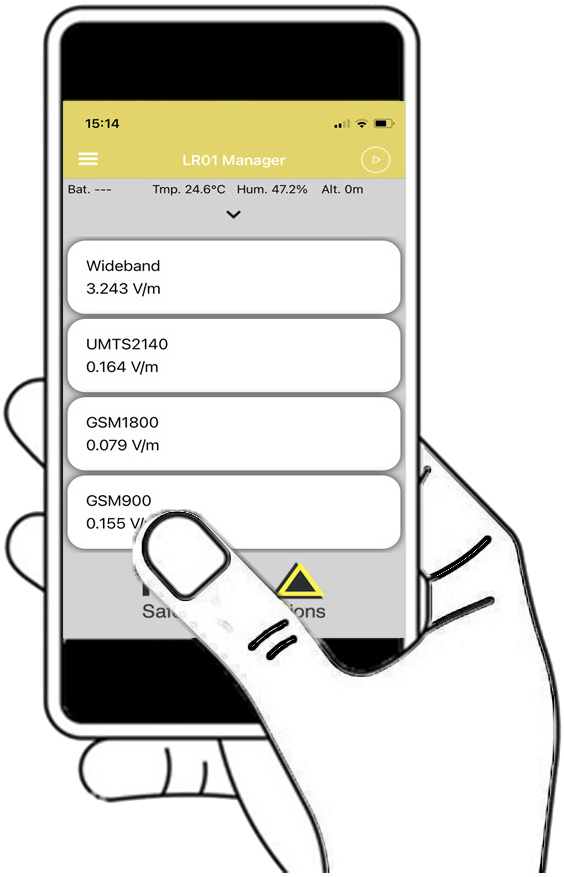
When installed on a tripod using the tripod support bracket (Tripod sold separately), SMARTS AMC can perform a quick survey of the area to be monitored.

In logger acquisition mode, SMARTS AMC can be configured to collect and store data directly in its internal memory. Thanks to the internal backup battery, rechargeable via USB or PoE power supply, SMARTS AMC can continue to operate even in the event of a blackout, with a standalone operating time of up to 100 hours.

Alternatively, SMARTS AMC can be controlled by the PC suite developed for Windows.

Narda also introduces an innovative way to display SMARTS AMC EMF measurements in combination with a dedicated app, Narda LR01 Manager, for mobile devices (Android and iOS) and smartwatches (WearOS).

Shown with optional Tripod



Download on the App Store

ANDROID APP ON Google play

The app works with SMARTS AMC by Bluetooth connection so users can enjoy hands-free operation and stay at a safe distance from the potentially dangerous field. The user can easily display EMF measurements, browse the technical data (battery level, altitude, etc) and change settings by simply tapping the screen.

SMARTS AMC Software

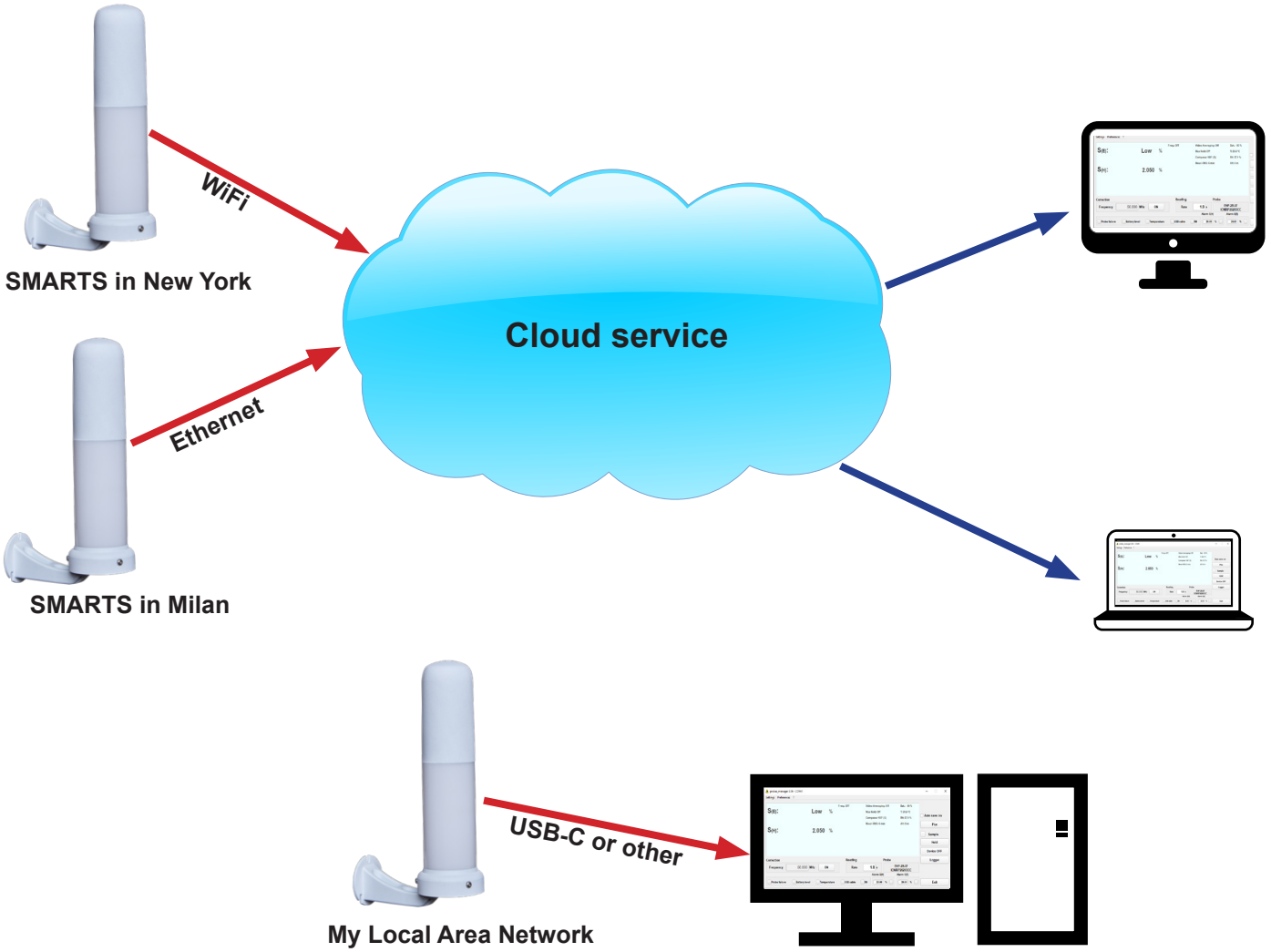
Narda is committed to developing solutions for remote device control, with the aim of providing customers with a simple and intuitive experience. In addition, for any need, the customer will always have the command protocol available, which we provide free of charge.

All EMF monitoring data can be stored securely and privately on your own computer, or shared publicly and free of charge online (via a web-based solution).

Two software options are available, as illustrated in the diagrams:

Network Monitoring Software:
This application allows monitoring of a network of multiple area monitors. Stations can be connected to the platform via fiber optic, USB-C, Ethernet, or Wi-Fi service ports (local area network). The platform can also control remote units through a cloud service installed on Windows Server (internet connection required). The software can notify the control center of electromagnetic field levels exceeding predefined thresholds by sending alarms via e-mail or by activating hardware alarms. All measurement data and information are stored in real time, including average and peak values, threshold comparisons, address, geographical position, and a station image for easy identification.

My Local Area Network "Probes Manager":
This software is designed for local control of a single monitoring station. It offers a simple and efficient interface for users who need to manage just one device without the complexity of network infrastructure.



Specifications

SMARTS AMC		
Interface	Optical (RP-02), USB-C, WiFi (802.11 b/g/n) (7), Bluetooth (5.0) (7), Ethernet 10/100 BaseT (PoE) (6), User's Port (6)	
Optical fiber connection	Optical serial interface 115200 Baud Connector RP02 up to a 40 m (USB-OC)	
Sampling time	Automatic from 300 ms	
Internal log interval	Settable from 1 sec to 1 hour, manually triggered, on adjustable threshold	
Max data storage capability	Up to 250.000 points (1)	
Probe specifications	Frequency range, Frequency flatness, Dynamic range, Resolution, Sensitivity, Accuracy, Overload, Measurement units, Detector, Sampling rate, Acquisition method	
GPS module	GNSS module Satellite System GPS + QZSS + GLONASS + GALILEO	
Supplementary data Battery voltage and capacity Date & Time Temperature Humidity (relative) Pressure GPS coordinates Altitude Compass Speed Acceleration	Internal sensor for reporting and logging	
Warnings and Alarms notifications	Field, Probe, Temperature, Humidity, Battery, Communications	
Alarms types	Acoustic, visual, vibration, data log	
Sound pressur level (SPL) @ 10 cm	95 dBA	
Internal memory	256 Mb	
Calibration (2)	Internal E^2PROM	
Backup internal battery	3.7 V / 1320 mAh Li-Ion	
Operating time (3) (without power supply connection)	Standalone mode Optical mode (4) BT mode (4) WiFi mode (4)	up to 100 hours up to 60 hours up to 20 hours up to 10 hours
Recharging time	< 2.5 hours	
External supply	5 VDC, Imax 600 mA	
Firmware updating	Through the optical link	
Self test	Automatic at power on	
Operating temperature	-20 to +55 °C	
Storage temperature	-30 to +75 °C	
Operating relative humidity (5)	5 to 95 %	
Ingress protection	Up to IP42 (SMARTS AMC/00) Up to IP65 (SMARTS AMC/01)	
Dimensions	Ø 86mm, Height 306mm (SMARTS AMC/00) Ø 70mm, Height 370mm (SMARTS AMC/01) Wall distance 93mm with support Bracket	
Weight	800g total weight inclusive of main unit and probe	

Unless otherwise specified, the following specifications refer to 23°C operating ambient temperature and 50% relative humidity.
(1) In logger mode extended format
(2) Recommended re-calibration interval 24 month
(3) Operating time depends on the driven probe, measure setting, and communication channel
(4) Continuous communication worst case
(5) Without condensation
(6) For SMARTS AMC/00 model only
(7) Disabled on Radio free model

EHP-2B-05 ELECTRIC AND MAGNETIC SHAPED FIELD PROBE - For ICNIRP 1998 and SC 6 2015				
			Electric Field	**Magnetic Field**
Frequency range	ICNIRP 1998	Occupational	0.5 – 9250 MHz	20 – 1000 MHz
		General Public	3 – 9250 MHz	
	SC6 2015	Controlled		
		Uncontrolled		
Level range (1)	Occupational / Controlled		0.1 – 1000 %	0.3 – 1000 %
	General Public / Uncontrolled		0.5 – 1000 %	1.5 – 1000 %
Overload			2000 %	
Linearity (2)			+/- 0.5 dB	
Power (Amplitude) dynamic range	Occupational / Controlled		40 (80) dB	35 (70) dB
	General Public / Uncontrolled		33 (66) dB	28 (56) dB
Resolution			0.01 %	
Sensitivity	Occupational / Controlled		0.1 %	0.3 %
	General Public / Uncontrolled		0.5 %	1.5 %
Frequency flatness (3) (typ)	ICNIRP 1998	Occupational	0.5 – 3 MHz +4/-3 dB 3 – 9250 MHz +/-3 dB	20 – 1000 MHz +/-3 dB
		General Public	3 – 10 MHz +2/-3 dB 10 – 9250 MHz +/-3 dB	
	SC6 2015	Controlled	3 – 9250 MHz +/-3.5 dB	
		Uncontrolled		
Anisotropy (4)			+/-0.5 dB	
Temperature error (4)			0.03 dB/°C	0.01 dB/°C
Temperature sensor			On board	
Field sensor			Triaxial orthogonal dipoles	Triaxial orthogonal loops
A/D convertion			On board	
Calibration (5)			internal E2PROM	
Operating temperature			-20 to +55 °C	
Operating relative humidity (6)			5 to 95 %	
Storage temperature			-30 to +75°C	
Dimensions			165 mm length, 54 mm diameter	
Weight			100 g	

Unless otherwise specified, the following specifications refer to 23°C operating ambient temperature and 50% relative humidity.
Note (1): Power density referred.
Note (2): At 50 MHz on related level range 6 dB above the noise floor
Note (3): Relative to 10% of the standard limit
Note (4): At 50 MHz / 10% of the standard limit
Note (5): Recommended re-calibration interval 24 months
Note (6): Without condensation

EHP-2B-06 ELECTRIC AND MAGNETIC SHAPED FIELD PROBE - For ICNIRP 1998 and SC 6 2015				
			Electric Field	**Magnetic Field**
Frequency range	ICNIRP 1998	Occupational	0.5 MHz – 60 GHz	20 – 1000 MHz
		General Public	3 MHz – 60 GHz	
	SC6 2015	Controlled		
		Uncontrolled		
Level range (1)	Occupational / Controlled		0.1 – 1000 %	0.3 – 1000 %
	General Public / Uncontrolled		0.5 – 1000 %	1.5 – 1000 %
Overload			2000 %	
Linearity (2)			+/- 0.5 dB	
Power (Amplitude) dynamic range	Occupational / Controlled		40 (80) dB	35 (70) dB
	General Public / Uncontrolled		33 (66) dB	28 (56) dB
Resolution			0.01 %	
Sensitivity	Occupational / Controlled		0.1 %	0.3 %
	General Public / Uncontrolled		0.5 %	1.5 %
Frequency flatness (3) (typ)	ICNIRP 1998	Occupational	0.5 – 3 MHz +4/-3 dB 3 – 18000 MHz +/-3 dB 18 – 60 GHz +9/-2 dB	20 – 1000 MHz +/-3 dB
		General Public	3 – 10 MHz +2/-3 dB 10 – 18000 MHz +/-3 dB 18 – 60 GHz +9/-2 dB	
	SC6 2015	Controlled	3 – 9250 MHz +/-3.5 dB 9250 – 18000 MHz +6/0 dB 18 – 60 GHz +9/-2 dB	
		Uncontrolled		
Anisotropy (4)			+/-0.5 dB	
Temperature error (4)			0.03 dB/°C	0.01 dB/°C
Temperature sensor			On board	
Field sensor			Triaxial orthogonal dipoles	Triaxial orthogonal loops
A/D convertion			On board	
Calibration (5)			internal E^2PROM	
Operating temperature			-20 to +55 °C	
Operating relative humidity (6)			5 to 95 %	
Storage temperature			-30 to +75°C	
Dimensions			165 mm length, 54 mm diameter	
Weight			100 g	

Unless otherwise specified, the following specifications refer to 23°C operating ambient temperature and 50% relative humidity.
(1) Power density referred.
(2) At 50 MHz on related level range 6dB above noise floor
(3) Relative to 10% of the standard limit
(4) At 50 MHz / 10% of the standard limit
(5) Recommended re-calibration interval 24 months
(6) Without condensation

EHP-2B-07 ELECTRIC AND MAGNETIC SHAPED FIELD PROBE - For ICNIRP 2020 and FCC 96-326				
			Electric Field	**Magnetic Field**
Frequency range	ICNIRP 2020	Occupational	5 – 9250 MHz	1 – 1000 MHz
		General Public		
	FCC 96-326	Occupational	2 – 9250 MHz	2 – 1000 MHz
		General Pop.	1.34 – 9250 MHz	1 – 1000 MHz
Level range (1)	Occupational		0.1 – 1000 %	0.3 – 1000 %
	General P.		0.5 – 1000 %	1.5 – 1000 %
Overload			2000 %	
Linearity (2)			+/- 0.5 dB	
Power (Amplitude) dynamic range	Occupational		40 (80) dB	35 (70) dB
	General P.		33 (66) dB	28 (56) dB
Resolution			0.01 %	
Sensitivity	Occupational		0.1 %	0.3 %
	General P.		0.5 %	1.5 %
Frequency flatness (3) (typ)	ICNIRP 2020	Occupational	5 – 9250 MHz +/-2 dB	1 – 200 MHz +3.5/-1 dB 200 – 1000 MHz +3.5/-4 dB
		General Public		
	FCC 96-326	Occupational	2 – 9250 MHz +/-3 dB	2 – 1000 MHz +/-3 dB
		General Pop.	1.34 – 9250 MHz +/-3 dB	1 – 1000 MHz +/-3 dB
Anisotropy (4)			+/-0.5 dB	
Temperature error (4)			0.03 dB/°C	0.01 dB/°C
Temperature sensor			On board	
Field sensor			Triaxial orthogonal dipoles	Triaxial orthogonal loops
A/D convertion			On board	
Calibration (5)			internal E^2PROM	
Operating temperature			-20 to +55 °C	
Operating relative humidity (6)			5 to 95 %	
Storage temperature			-30 to +75°C	
Dimensions			165 mm length, 54 mm diameter	
Weight			100 g	

Unless otherwise specified, the following specifications refer to 23°C operating ambient temperature and 50% relative humidity.
Note (1): Power density referred.
Note (2): At 50 MHz on related level range 6dB above noise floor
Note (3): Relative to 10% of the standard limit
Note (4): At 50 MHz / 10% of the standard limit
Note (5): Recommended re-calibration interval 24 months
Note (6): Without condensation

EHP-2B-08 ELECTRIC AND MAGNETIC SHAPED FIELD PROBE - For ICNIRP 2020 and FCC 96-326				
			Electric Field	**Magnetic Field**
Frequency range	ICNIRP 2020	Occupational	5 MHz – 60 GHz	1 – 1000 MHz
		General Public		
	FCC 96-326	Occupational	2 MHz – 60 GHz	2 – 1000 MHz
		General Pop.	1.34 MHz – 60 GHz	1 – 1000 MHz
Level range (1)	Occupational		0.1 – 1000 %	0.3 – 1000 %
	General P.		0.5 – 1000 %	1.5 – 1000 %
Overload			2000 %	
Linearity (2)			+/- 0.5 dB	
Power (Amplitude) dynamic range	Occupational		40 (80) dB	35 (70) dB
	General P.		33 (66) dB	28 (56) dB
Resolution			0.01 %	
Sensitivity	Occupational		0.1 %	0.3 %
	General P.		0.5 %	1.5 %
Frequency flatness (3) (typ)	ICNIRP 2020	Occupational	5 – 18000 MHz +3/-2 dB 18 – 60 GHz +9/-2 dB	1 – 200 MHz +3.5/-1 dB 200 – 1000 MHz +3.5/-4 dB
		General Public		
	FCC 96-326	Occupational	2 – 18000 MHz +/-3 dB 18 – 60 GHz +9/-2 dB	2 – 1000 MHz +/-3 dB
		General Pop.	1.34 – 18000 MHz +/-3 dB 18 – 60 GHz +9/-2 dB	1 – 1000 MHz +/-3 dB
Anisotropy (4)			+/-0.5 dB	
Temperature error (4)			0.03 dB/°C	0.01 dB/°C
Temperature sensor			On board	
Field sensor			Triaxial orthogonal dipoles	Triaxial orthogonal loops
A/D convertion			On board	
Calibration (5)			internal E2PROM	
Operating temperature			-20 to +55 °C	
Operating relative humidity (6)			5 to 95 %	
Storage temperature			-30 to +75°C	
Dimensions			165 mm length, 54 mm diameter	
Weight			100 g	

Unless otherwise specified, the following specifications refer to 23°C operating ambient temperature and 50% relative humidity.
Note (1): Power density referred.
Note (2): At 50 MHz on related level range 6dB above noise floor
Note (3): Relative to 10% of the standard limit
Note (4): At 50 MHz / 10% of the standard limit
Note (5): Recommended re-calibration interval 24 months
Note (6): Without condensation

EP-1B-09 ELECTRIC FIELD PROBE	
Frequency range	0.1 MHz - 8 GHz
Level range	0.2 - 200 V/m
Overload	600 V/m
Linearity (1)	+/- 0.5 dB (+/- 0.3 dB typ.)
Dynamic range	> 60 dB
Resolution	0.01 V/m
Sensitivity	0.2 V/m
Frequency flatness (typ)	0.1 – 0.2 MHz +1/-4 dB 0.2 – 4000 MHz +/- 1.5 dB 4000 – 8000 GHz +3.5/-1.5 dB
Anisotropy (2)	+/- 0.8 dB (+/- 0.6 dB typ.)
Temperature error	0.03 dB/°C
Temperature sensor	On board
Field sensor	Triaxial orthogonal dipoles
A/D convertion	On board
Calibration (3)	internal E^2PROM
Dimensions	165 mm length, 54 mm diameter
Weight	100 g
Self test	Automatic at probe connection
Operating temperature	-20 to +55 °C
Operating relative humidity (4)	5 to 95 %
Storage temperature	-30 to +75°C

Unless otherwise specified, the following specifications refer to 23°C operating ambient temperature and 50% relative humidity.
Note (1): At 50 MHz on related level range 6dB above noise floor
Note (2): At 50 MHz, at 6V/m
Note (3): Recommended re-calibration interval 24 months
Note (4): Without condensation

EP-1B-10 ELECTRIC FIELD PROBE	
Frequency range	0.3 MHz – 40 GHz
Level range	0.5 – 800 V/m
Overload	1200 V/m
Linearity (1)	+/- 0.5 dB (+/- 0.3 dB typ.)
Dynamic range	> 64 dB
Resolution	0.01 V/m
Sensitivity	0.5 V/m
Frequency flatness (typ)	0.3 – 4000 MHz +/- 1.5 dB 4 – 12 GHz +3.0/-3.0 dB 12 – 23 GHz +4.0/-3.0 dB 23 – 40 GHz +5.0/-4.0 dB
Anisotropy (2)	+/- 0.8 dB (+/- 0.5 dB typ.)
Temperature error	0.03 dB/°C
Temperature sensor	On board
Field sensor	Triaxial orthogonal dipoles
A/D convertion	On board
Calibration (3)	internal E^2PROM
Dimensions	165 mm length, 54 mm diameter
Weight	100 g
Self test	Automatic at probe connection
Operating temperature	-20 to +55 °C
Operating relative humidity (4)	5 to 95 %
Storage temperature	-30 to +75°C

Unless otherwise specified, the following specifications refer to 23°C operating ambient temperature and 50% relative humidity.
Note (1): At 200 MHz on related level range 6dB above noise floor
Note (2): At 930 and 1800 MHz, at 6V/m
Note (3): Recommended re-calibration interval 24 months
Note (4): Without condensation

EP-1B-11 ELECTRIC FIELD PROBE	
Frequency range	0.1 MHz – 12.5 GHz
Level range	0.2 - 200 V/m
Overload	600 V/m
Linearity (1)	+/- 0.5 dB (+/- 0.3 dB typ.)
Dynamic range	> 60 dB
Resolution	0.01 V/m
Sensitivity	0.2 V/m
Frequency flatness (typ)	0.1 – 0.2 MHz +1/-4 dB 0.2 – 4000 MHz +/- 1.5 dB 4000 – 12500 GHz +3.5/-1.5 dB
Anisotropy (2)	+/- 0.8 dB (+/- 0.6 dB typ.)
Temperature error	0.03 dB/°C
Temperature sensor	On board
Field sensor	Triaxial orthogonal dipoles
A/D convertion	On board
Calibration (3)	internal E^2PROM
Dimensions	165 mm length, 54 mm diameter
Weight	100 g
Self test	Automatic at probe connection
Operating temperature	-20 to +55 °C
Operating relative humidity (4)	5 to 95 %
Storage temperature	-30 to +75°C

Unless otherwise specified, the following specifications refer to 23°C operating ambient temperature and 50% relative humidity.
Note (1): At 50 MHz on related level range 6dB above noise floor
Note (2): At 50 MHz, at 6V/m
Note (3): Recommended re-calibration interval 24 months
Note (4): Without condensation

EP-1B-12 ELECTRIC FIELD PROBE	
Frequency range	0.3 MHz - 18 GHz
Level range	0.5 - 800 V/m
Overload	1200 V/m
Linearity (1)	+/- 0.5 dB (+/- 0.3 dB typ.)
Dynamic range	> 64 dB
Resolution	0.01 V/m
Sensitivity	0.5 V/m
Frequency flatness (typ)	0.3 – 4000 MHz +/- 1.5 dB 4 – 18 GHz +3.5/-2 dB
Anisotropy (2)	+/- 0.8 dB (+/- 0.5 dB typ.)
Temperature error	0.03 dB/°C
Temperature sensor	On board
Field sensor	Triaxial orthogonal dipoles
A/D convertion	On board
Calibration (3)	internal E^2PROM
Dimensions	165 mm length, 54 mm diameter
Weight	100 g
Self test	Automatic at probe connection
Operating temperature	-20 to +55 °C
Operating relative humidity (4)	5 to 95 %
Storage temperature	-30 to +75°C

Unless otherwise specified, the following specifications refer to 23°C operating ambient temperature and 50% relative humidity.
Note (1): At 200 MHz on related level range 6dB above noise floor
Note (2): At 930 and 1800 MHz, at 6 V/m
Note (3): Recommended re-calibration interval 24 months
Note (4): Without condensation

Ordering information

Instrument Sets

Description	Part number
› LR-01 Basic Unit › USB Cable – USB(A)/USB(C) 2m long › AC/DC Converter with plug adapters › RP-02/10 10m long › USB-OC Optical Converter › AMC Interface › Wall support bracket › Radome AMC › Tools › USB memory stick including software media and operating manual › Certificate of Calibration › Return for Repair Form	**SMARTS-AMC-00**
› LR-01 Basic Unit › IP65 support › USB Cable – USB(A)/USB(C) 2m long › AC/DC Converter with plug adapters › RP-02/10 10m long › USB-OC Optical Converter › Wall support bracket › Radome AMC/01 › Tools › USB memory stick including software media and operating manual › Certificate of Calibration › Return for Repair Form	**SMARTS-AMC-01**

Probes

Description	Part number
Electric and magnetic shaped field probe - For ICNIRP 1998 and SC 6 2015 E: 500 kHz to 9.25 GHz; 0.1 (0.5) to 1000 % H: 20 MHz to 1 GHz; 0.3 (1.5) to 1000 %	**EHP-2B-05**
Electric and magnetic shaped field probe - For ICNIRP 1998 and SC 6 2015 E: 500 kHz to 60 GHz; 0.1 (0.5) to 1000 % H: 20 MHz to 1 GHz; 0.3 (1.5) to 1000 %	**EHP-2B-06**
Electric and magnetic shaped field probe - For ICNIRP 2020 and FCC 96 326 E: 1.34 MHz to 9,25 GHz; 0.1 (0.5) to 1000 % H: 1 MHz to 1 GHz; 0.3 (1.5) to 1000 %	**EHP-2B-07**
Electric and magnetic shaped field probe - For ICNIRP 2020 and FCC 96 326 E: 1.34 MHz to 60 GHz; 0.1 (0.5) to 1000 % H: 1 MHz to 1 GHz; 0.3 (1.5) to 1000 %	**EHP-2B-08**
Electric field probe 0.1 MHz to 8 GHz; 0.2 to 200 V/m	**EP-1B-09**
Electric field probe 0.3 MHz to 40 GHz; 0.5 to 800 V/m	**EP-1B-10**
Electric field probe 0.1 MHz to 12.5 GHz; 0.2 to 200 V/m	**EP-1B-11**
Electric field probe 0.3 MHz to 18 GHz; 0.5 to 800 V/m	**EP-1B-12**

Accessories

Description	Part number
FO Duplex Cable RP-02, 20 m	**650.000.257**
FO Duplex Cable RP-02, 40 m	**650.000.275**
DB15 Cable - DB15(m)/DB15(m), 1,8 m (only for version 00)	**210.500.051**
Ethernet Cable, 5m (only for version 00)	**210.500.052**
PoE Injector (only for version 00)	**650.000.340**
TR-02, tripod with plastic column, bag and swivel	**655.000.005**
Carrying Case	**655.000.010**

Options

Description	Part number
Radio free Option radio free version to permanently disable Wi-Fi and Bluetooth communication for High Security Environments	**650.000.348**

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