

R&S® EVSF1000

VHF/UHF NAV/FLIGHT ANALYZER

Specifications



Specifications
Version 07.00

ROHDE & SCHWARZ

Make ideas real



CONTENTS

Definitions	3
Specifications.....	4
Frequency	4
Level.....	4
ILS signal analysis.....	5
VOR signal analysis (R&S®EVSG-K2 option).....	6
Marker beacon signal analysis (R&S®EVSG-K3 option).....	6
GBAS mode (R&S®EVSG-K4 option).....	6
SCAT I mode (R&S®EVSG-K5 option).....	7
COM analysis (R&S®EVSG-K6 option)	7
LF analysis (R&S®EVSG1-K7 option)	7
RF and IF spectrum analysis (R&S®EVSG-K10 option)	9
AF spectrum analysis (R&S®EVSG-K11 option).....	9
Data recording.....	9
I/Q data recording and streaming (R&S®EVSG1-K25 option).....	9
Inputs and outputs	10
<i>Front</i>	10
<i>Rear (without R&S®EVSF1-B4 option)</i>	10
<i>Rear (with R&S®EVSF1-B4 option)</i>	10
General data	11
Ordering information	12

Definitions

General

Product data applies under the following conditions:

- Three hours storage at ambient temperature followed by 30 minutes warm-up operation
- Specified environmental conditions met
- Recommended calibration interval adhered to
- All internal automatic adjustments performed, if applicable

Specifications with limits

Represent warranted product performance by means of a range of values for the specified parameter. These specifications are marked with limiting symbols such as $<$, \leq , $>$, \geq , \pm , or descriptions such as maximum, limit of, minimum. Compliance is ensured by testing or is derived from the design. Test limits are narrowed by guard bands to take into account measurement uncertainties, drift and aging, if applicable.



Non-traceable specifications with limits (n. trc.)

Represent product performance that is specified and tested as described under “Specifications with limits” above. However, product performance in this case cannot be warranted due to the lack of measuring equipment traceable to national metrology standards. In this case, measurements are referenced to standards used in the Rohde & Schwarz laboratories.

Specifications without limits

Represent warranted product performance for the specified parameter. These specifications are not specially marked and represent values with no or negligible deviations from the given value (e.g. dimensions or resolution of a setting parameter). Compliance is ensured by design.

Typical data (typ.)

Characterizes product performance by means of representative information for the given parameter. When marked with $<$, $>$ or as a range, it represents the performance met by approximately 80 % of the instruments at production time. Otherwise, it represents the mean value.

Nominal values (nom.)

Characterize product performance by means of a representative value for the given parameter (e.g. nominal impedance). In contrast to typical data, a statistical evaluation does not take place and the parameter is not tested during production.

Measured values (meas.)

Characterize expected product performance by means of measurement results gained from individual samples.

Uncertainties

Represent limits of measurement uncertainty for a given measurand. Uncertainty is defined with a coverage factor of 2 and has been calculated in line with the rules of the Guide to the Expression of Uncertainty in Measurement (GUM), taking into account environmental conditions, aging, wear and tear.

Device settings and GUI parameters are designated with the format “parameter: value”.

Non-traceable specifications with limits, typical data as well as nominal and measured values are not warranted by Rohde & Schwarz.

In line with the 3GPP standard, chip rates are specified in million chips per second (Mcps), whereas bit rates and symbol rates are specified in billion bit per second (Gbps), million bit per second (Mbps), thousand bit per second (kbps), million symbols per second (MSPS) or thousand symbols per second (ksps), and sample rates are specified in million samples per second (Msample/s). Gbps, Mcps, Mbps, MSPS, kbps, ksps and Msample/s are not SI units.

Specifications

Frequency

Frequency range		70 MHz to 410 MHz
Frequency setting resolution	ILS, VOR	100 Hz
	COM, GBAS	10 Hz
Frequency measurement resolution		1 Hz
Preselection filter ranges	marker beacon	74.7 MHz to 75.3 MHz
	ILS LLZ, VOR, GBAS	108 MHz to 118 MHz
	COM 1	118 MHz to 145 MHz
	ILS GS, COM 2	220 MHz to 410 MHz
Reference frequency, internal		
Accuracy		(time since last adjustment × aging rate) + temperature drift + calibration accuracy
Aging per year		1×10^{-7} (nom.)
Temperature drift	0 °C to +50 °C	1×10^{-7} (nom.)
Achievable initial calibration accuracy		5×10^{-8} (nom.)
Spectral purity		
SSB phase noise	frequency = 110 MHz, carrier offset	
	10 kHz	-105 dBc (1 Hz) (typ.)
	25 kHz	-115 dBc (1 Hz) (typ.)
	100 kHz	-125 dBc (1 Hz) (typ.)
	1 MHz	-145 dBc (1 Hz) (typ.)

Level

Display ranges	low noise mode (15 dB RF gain, 15 dB IF gain)	noise floor up to -30 dBm
	normal mode (0 dB RF attenuation)	noise floor up to 0 dBm
	low distortion mode (15 dB RF attenuation)	noise floor up to 15 dBm
	autorange mode	noise floor up to 15 dBm
Maximum input level		
DC voltage		50 V
CW RF power		30 dBm
Level resolution		0.01 dB
Residual spurious response	low noise mode	< -100 dBm
Intermodulation		
1 dB compression of input mixer (two-tone)	normal mode	+8 dBm (nom.)
Third-order intercept point (TOI)	2×-10 dBm, $\Delta f > 200$ kHz, normal mode	> 20 dBm
	2×-10 dBm, $f_{in} = 108.1$ MHz, $f_{1/2} = 100.1/104.1$ MHz, normal mode	> 40 dBm (nom.)
Level measurement uncertainty		
Absolute level uncertainty at 113 MHz	IF bandwidth: 10 kHz, level: -10 dBm, normal RF mode	
	+20 °C to +30 °C	< 0.5 dB
	0 °C to +50 °C	< 0.8 dB (nom.)
Frequency response 70 MHz to 410 MHz, referenced to 113 MHz	normal RF mode	
	+20 °C to +30 °C	< 0.5 dB
	0 °C to +50 °C	< 0.8 dB (nom.)
RF mode switching uncertainty	RF mode low noise or low distortion referenced to normal mode	< 0.3 dB
Bandwidth switching uncertainty	referenced to IFBW = 10 kHz	< 0.2 dB (nom.)
Nonlinearity of displayed level	SNR > 16 dB, 0 dB to -70 dB	< 0.2 dB
Total measurement uncertainty	70 MHz to 410 MHz, signal level: 0 dB to -80 dBm, SNR > 20 dB, RF mode auto, IF bandwidth: 10 kHz, 95 % confidence level, +20 °C to +30 °C	
		1.0 dB
	dual frequency ILS or COM system	1.2 dB

ILS signal analysis

ILS measurement mode		
Without R&S®EVSG-K1 option	1F (single frequency system), WIDE	main (modulation parameters), distortion, ID, data recording
	2F (dual frequency system)	main (sum of CRS and CLR), ID, distortion, data recording
With R&S®EVSG-K1 option	2F (dual frequency system)	main (sum), course/clearance, ID, distortion, data recording
IF bandwidths	modulation analysis 1F, 2F	1/3/6/10 kHz (nom.) (3 kHz default)
	modulation analysis WIDE	1/3/6/10/18/25/36/50 kHz (nom.) (25 kHz default)
	ID analysis, distortion analysis	1/3/6/10 kHz (nom.) (3 kHz default)
ILS carrier offset search	1F, 2F	
	IF bandwidth range	1 kHz to 10 kHz
	search modes	manual, find carriers, autotune
Modulation depth uncertainty	RF mode auto, IF bandwidth: 1/3/6/10/18/32/50 kHz, input level: -75 dBm to +10 dBm, measurement time ≥ 10 ms, 95 % confidence level	
	0 % to 50 %, 90/150 Hz ± 2.5 %	≤ 0.3 %
	voice/identifier	≤ 1.0 % (nom.)
	RF mode auto, IF bandwidth: 1/3/6 kHz, input level: -105 dBm to -75 dBm, measurement time ≥ 500 ms, 95 % confidence level	
	0 % to 50 %, 90/150 Hz ± 2.5 %	≤ 0.5 %
	voice/identifier	≤ 2.0 % (nom.)
AF measurement uncertainty	RF mode auto, IF bandwidth: 1/3/6/10/18/32/50 kHz, input level: -75 dBm to +10 dBm, measurement time ≥ 10 ms, 95 % confidence level	
Frequency	90/150 Hz ± 5 Hz	≤ 0.05 Hz (nom.)
	1020 Hz ± 50 Hz	≤ 1.0 Hz (nom.)
Phase angle 90/150 Hz		≤ 0.2° (nom.)
Phase angle 90/90 Hz, 150/150 Hz	with R&S®EVSG-K1 option	≤ 0.2° (nom.)
AF measurement uncertainty	RF mode auto, IF bandwidth: 1/3/6 kHz, input level: -105 dBm to -75 dBm, measurement time ≥ 500 ms, 95 % confidence level	
Frequency	90/150 Hz ± 5 Hz	≤ 0.1 Hz (nom.)
	1020 Hz ± 50 Hz	≤ 5.0 Hz (nom.)
Phase angle 90/150 Hz		≤ 1.0° (nom.)
Phase angle 90/90 Hz, 150/150 Hz	with R&S®EVSG-K1 option	≤ 1.0° (nom.)
DDM measurement uncertainty	RF mode auto, IF bandwidth: 1/3/6/10/18/32/50 kHz, input level: -75 dBm to +10 dBm, SDM: 10 % to 90 %, measurement time ≥ 10 ms, 95 % confidence level	
Localizer	≤ ±10 % DDM	≤ 0.04 % DDM ± 0.1 % of reading
	> ±10 % DDM	≤ 0.04 % DDM ± 0.2 % of reading
Glidepath	≤ ±20 % DDM	≤ 0.08 % DDM ± 0.1 % of reading
	> ±20 % DDM	≤ 0.08 % DDM ± 0.2 % of reading
DDM measurement uncertainty	RF mode auto, IF bandwidth: 1/3/6 kHz, input level: -105 dBm to -75 dBm, SDM: 10 % to 90 %, measurement time ≥ 500 ms, 95 % confidence level	
Localizer	≤ ±10 % DDM	≤ 0.25 % DDM ± 0.1 % of reading
	> ±10 % DDM	≤ 0.25 % DDM ± 0.2 % of reading
Glidepath	≤ ±20 % DDM	≤ 0.5 % DDM ± 0.1 % of reading
	> ±20 % DDM	≤ 0.5 % DDM ± 0.2 % of reading

VOR signal analysis (R&S®EVSG-K2 option)

VOR measurement mode		main, ID, distortion, data recording
IF bandwidths		1/3/6/10/18/25/36/50 kHz (nom.) (25 kHz default)
Modulation parameters	RF mode auto, IF bandwidth: 25/36/50 kHz, input level: –80 dBm to +10 dBm, measurement time ≥ 100 ms, 95 % confidence level	
Azimuth measurement uncertainty		≤ ±0.05°
AM modulation depth measurement uncertainty	0 % to 50 %, 30/9960 Hz ± 2 % voice/identifier	≤ 0.5 % ≤ 1.0 % (nom.)
AF frequency measurement uncertainty	30 Hz ± 3 Hz 1020 Hz ± 50 Hz 9960 Hz ± 100 Hz	≤ 0.03 Hz (nom.) ≤ 1.0 Hz (nom.) ≤ 0.5 Hz (nom.)
FM subcarrier measurement	RF mode auto, IF bandwidth: 25/36/50 kHz, input level: –80 dBm to +10 dBm, measurement time ≥ 100 ms, 95 % confidence level	
FM subcarrier deviation measurement uncertainty		≤ 0.1 Hz ± 0.5 % of reading (nom.)
Modulation parameters	RF mode auto, IF bandwidth: 25 kHz, input level: –100 dBm to –80 dBm, measurement time ≥ 500 ms, 95 % confidence level	
Azimuth measurement uncertainty		≤ ±0.25°
AM modulation depth measurement uncertainty	0 % to 50 %, 30/9960 Hz ± 2 % voice/identifier	≤ 1.0 % ≤ 2.0 % (nom.)
AF frequency measurement uncertainty	30 Hz ± 3 Hz 1020 Hz ± 50 Hz 9960 Hz ± 100 Hz	≤ 0.5 Hz (nom.) ≤ 5.0 Hz (nom.) ≤ 1.0 Hz (nom.)
FM subcarrier measurement	RF mode auto, IF bandwidth: 25 kHz, input level: –100 dBm to –80 dBm, measurement time ≥ 500 ms, 95 % confidence level	
FM subcarrier deviation measurement uncertainty		≤ 0.5 Hz ± 1 % of reading (nom.)

Marker beacon signal analysis (R&S®EVSG-K3 option)

Marker beacon measurement mode		main, ID, data recording
IF bandwidths		1/3/6/10/18/25/36/50 kHz (nom.) (10 kHz default)
Modulation parameters	RF mode auto, IF bandwidth: 1/3/6/10 kHz, input level: –80 dBm to +10 dBm, measurement time ≥ 100 ms, 95 % confidence level	
AM modulation depth measurement uncertainty	80 % to 100 %, 400/1300/3000 Hz ± 2 %	≤ 0.5 %
AF frequency measurement uncertainty	400/1300/3000 Hz ± 50 Hz	≤ 0.5 Hz (nom.)

GBAS mode (R&S®EVSG-K4 option)

Standards		ICAO Annex 10, RTCA DO-246
GBAS measurement modes		sequence, frame, burst, I/Q constellation, message content, data recording
IF bandwidths		16.8/25 kHz (nom.) (16.8 kHz default)
VDB capture range		±1 kHz (nom.)
Measurement and data decoding range	message failure rate < 1.0×10^{-3}	
	RF mode low noise	–100 dBm to –35 dBm (nom.)
	RF mode normal	–83 dBm to –5 dBm (nom.)
	RF mode low distortion	–67 dBm to 10 dBm (nom.)
Modulation		D8PSK
Symbol rate		10500 symbols/s (nom.)
Modulation parameters		
Burst level average		measured over the 48-bit synchronization and ambiguity resolution sequence
Slot peak level		maximum level within the slot from valid or invalid signals
Carrier frequency offset accuracy		see reference frequency in section Frequency
Error vector magnitude (EVM) RMS error	RMS normalization mode: mean constellation power	< 1 % (nom.)

TDMA timing parameters		
Resolution		2.38 μ s (nom.)
Range	start of the burst referred to the trigger signal	-400 μ s to 1.4 ms (nom.)
Synchronization sequence position		start of the synchronization and ambiguity resolution sequence
Message parameters		<ul style="list-style-type: none"> training sequence FEC application data application FEC slot occupancy bit error rate (BER) before FEC burst valid count burst failed count
Message types supported by default	message types are described in XML and can be modified or extended	<ul style="list-style-type: none"> message type 1 message type 2 message type 4 message type 11
Trigger		pulse per second (PPS) (required for measurement)
Required pulse width	trigger on rising edge	> 1 μ s
Required accuracy		\pm 95.2 μ s

SCAT I mode (R&S®EVSG-K5 option)

Standards		ICAO Annex 10, RTCA DO-217
Measurement modes, modulation parameters, message parameters		see section GBAS mode
Supported message types		<ul style="list-style-type: none"> message type 1 message type 4

COM analysis (R&S®EVSG-K6 option)

COM measurement mode	1F (single frequency system)	main (modulation parameters), data recording
	2F (dual frequency system)	main (sum of TX1 and TX2), data recording
IF bandwidths		1/3/6/10 kHz (nom.) (3 kHz default)
Carrier offset	2F (8.33 kHz channel separation systems)	\pm 2.5 kHz
Modulation parameters	RF mode auto, IF bandwidth: 1/3/6/10 kHz, input level: -100 dBm to +10 dBm, measurement time \geq 500 ms, 95 % confidence level	
AM modulation depth measurement uncertainty	10 % to 95 %, 1 kHz \pm 2.5 %	\leq 0.5 %

LF analysis (R&S®EVSG1-K7 option) ¹

Input		LF In (rear)
ILS signal analysis		
Level display		RMS input voltage peak modulation voltage (V_p)
Spectrum preview	frequency axis	0 Hz to 24 kHz
	level axis	0 V to 1 V/0 V to 5 V (linear)
	measurement display	LF input spectrum
ILS measurement view	user-selectable	main (modulation parameters), distortion, ID, data recording
LF input mode	user-selectable	AF or low IF
Coupling		AC/DC
AF input bandwidth	AF mode	0.5/1.5/3/5/9/12.5/18/25 kHz (1.5 kHz default)
	low IF mode	1/3/6/10 kHz (3 kHz default)

¹ R&S®EVSF1-B4 hardware option required.

Low IF frequency	low IF mode	2.5 kHz to 22.5 kHz, selectable in 100 Hz steps
IQ data recording (requires R&S®EVSG1-K25)	AF mode	I only
	low IF mode	I and Q
VOR signal analysis (R&S®EVSG1-K2 required)		
Level display		RMS input voltage
		peak modulation voltage (V_p)
Spectrum preview	frequency axis	0 Hz to 24 kHz
	level axis	0 V to 1 V/0 V to 5 V (linear)
	measurement display	LF input spectrum
VOR measurement view	user-selectable	main (modulation parameters), distortion, ID, data recording
LF input mode		AF
Coupling		AC/DC
AF input bandwidth		0.5/1.5/3/5/9/12.5/18/25 kHz (12.5 kHz default)
IQ data recording (requires R&S®EVSG1-K25)	AF mode	I only
NDB signal analysis		
Input frequency range		190 kHz to 1750 kHz
Frequency resolution		1 Hz
Tuning step size		0.1/1/10 kHz (1 kHz default)
Carrier frequency offset accuracy		see reference frequency in section Frequency
Level display		RMS signal level
Unit	input impedance 50 Ω	dB μ V or dBm (dB μ V default)
	input impedance 20 k Ω	dB μ V (EMF)
Measurement range	S+N/N >20 dB, BW 1 kHz	
	RF attenuation auto	20 dB μ V to 110 dB μ V (nom.) ²
	RF mode low noise	20 dB μ V to 80 dB μ V (nom.)
	RF mode norm	40 dB μ V to 100 dB μ V (nom.)
	RF mode low distortion	60 dB μ V to 110 dB μ V (nom.) ²
Residual spurious response	low noise mode	< 20 dB μ V (nom.)
Level measurement uncertainty	190 kHz to 1750 kHz, signal level: 40 dB μ V to 100 dB μ V, S/N > 20 dB, RF mode auto, IF bandwidth: 3 kHz, 95 % confidence level, +20 °C to +30 °C	
	instrument serial number < 100817	< 1 dB (nom.)
	instrument serial number \geq 100817	< 1 dB
Modulation parameters	RF mode auto, IF bandwidth: 1/3/6/10 kHz, input level: 40 dB μ V to 100 dB μ V ³ , measurement time \geq 100 ms, 95 % confidence level	
AM modulation depth measurement uncertainty	80 % to 100 %, 400/1020 Hz \pm 2 %	\leq 1 % (nom.)
AF frequency measurement uncertainty	400/1020 Hz \pm 50 Hz	\leq 0.5 Hz (nom.)
Spectrum preview	frequency axis	f_{center} = receiver frequency, span 50 kHz
	level axis	-30 dB μ V to 120 dB μ V
	measurement display	IF spectrum
NDB measurement view	ID (default)	ID Code, period, dot/dash timing, modulation depth, mododulation frequency
	distortion	K2, K3, K4, THD, unwanted AM 30 Hz to 120 Hz
	data recording	measurement parameters, IQ data (with R&S®EVSG1-K25 option)
IF bandwidths		1/3/6/10 kHz (3 kHz default)
ID frequency	selectable	400 Hz \pm 10 % or 1020 Hz \pm 10 % (nom.) (400 Hz default)
IQ data recording (requires R&S®EVSG1-K25)		I and Q

² Upper limit 100 dB μ V for instruments with serial number < 100817.

³ Upper limit 90 dB μ V for instruments with serial number < 100817.

RF and IF spectrum analysis (R&S®EVSG-K10 option)

RF frequency range		70 MHz to 410 MHz
Display range	selectable	noise floor up to 15 dBm
RF spectrum analysis mode		
Start/stop or center/span	user-selectable	70 MHz to 410 MHz
Resolution bandwidths		0.8/1.6/3.1/6.2/12.5/25/50/100 kHz
IF spectrum analysis mode		
Span (or start/stop)	user-selectable	1 kHz to 100 kHz
Resolution bandwidths	modes: auto/manual	2.3 Hz to 15 kHz (depending on span)

AF spectrum analysis (R&S®EVSG-K11 option)

Input signal frequency range	RF input	70 MHz to 410 MHz
	LF input (with R&S®EVSG1-K7 option)	0 to 50 kHz
Span (or start/stop)	user-selectable	100 Hz to 50 kHz
Resolution bandwidths	modes: auto/manual	2.3 Hz to 25 kHz
Measurement result displays	ILS 1F/wide	AM spectrum
	ILS 2F (with R&S®EVSG1-K1 option)	course frequency AM spectrum clearance frequency AM spectrum
	VOR (with R&S®EVSG1-K2 option)	main carrier AM spectrum
		FM subcarrier spectrum
		FM subcarrier AM spectrum (AM distortion)
NDB (with R&S®EVSG1-K7 option)	AM spectrum	
Trace detector		auto peak (default), RMS
Trace functions		clear/write, maximum peak, average

Data recording

Data rate		up to 100 data records/s
Number of record sets per data list		1 000 000
Number of data lists per mode	LLZ, GP, MB, VOR, COM	9999
Storage capacity (internal)		8 Gbyte
Export format		CSV
Parameter selection	ALL	R&S®EVSG native
	FULL	R&S®EVS300 compatible

I/Q data recording and streaming (R&S®EVSG1-K25 option)

Word length of I/Q samples		32 bit for I and 32 bit for Q
Sample rate		125 ksample/s
Signal analysis bandwidth		max. 100 kHz
Record data rate		8 Mbit/s
Data format		32 bit signed integer for I and Q, compatible to R&S®ARB toolbox plus for Rohde & Schwarz vector signal generators
Record time, nominal	without R&S®EVSG-B1 option, internal memory	30 min (2 Gbyte), 2 h (8 Gbyte)
	with R&S®EVSG-B1 option, I/Q data recording on two RX channels, internal memory	30 min (2 × 2 Gbyte), 1 h (2 × 4 Gbyte)
	TCP/IP stream over Ethernet	unlimited

Inputs and outputs

Front

AF output		3.5 mm female connector
USB	double connector	USB flash drive for data storage and software updates

Rear (without R&S®EVSF1-B4 option)

RF input	RX1	N connector, 50 Ω
	RX2	N connector, 50 Ω
LAN interface		RJ-45, 100BASE-T
GPS interface		RS-232, 9-pin D-Sub connector
PPS input		SMA connector
Impedance		1 MΩ (nom.)
DC input		11 V to 32 V

Rear (with R&S®EVSF1-B4 option)

Multi-purpose connector		mechanically compatible to ARINC 404, 32-pin male, pin arrangement 32C4, no coding
RF input	RX1, coax (female) size 9	50 Ω (nom.)
	RX2, coax (female) size 9	50 Ω (nom.)
LAN interface		100BASE-T
GPS interface		RS-232
PPS input	impedance	1 MΩ (nom.)
DC input		11 V to 32 V
USB		USB 2.0
Trigger input	impedance	1 MΩ (nom.)
	trigger level	3.3 V to 12 V (nom.)
LF/BB input		
Baseband/low IF	input ranges	-5 V to +5 V (10 V (V_{pp})) -1 V to +1 V (2 V (V_{pp}))
	impedance	20 kΩ (nom.)
	coupling	AC/DC
	frequency range, AC coupling	10 Hz to 50 kHz
	frequency range, DC coupling	DC to 50 kHz
NDB	input range	20 to 110 dBμV (nom.) ²
	impedance	50 Ω/20 kΩ selectable (nom.)
	coupling	AC
	frequency range	190 kHz to 1750 kHz
Demodulation output	impedance	50 Ω (nom.)
AF output		8 Ω (nom.)
TCP/IP address select		0 V/3.3 V (nom.)

General data

Display		6.3 cm TFT display
Resolution		320 × 240 pixel
Temperature range	operating temperature range	0 °C to +50 °C
	permissible temperature range	−10 °C to +55 °C
	storage temperature range	−30 °C to +70 °C
Climatic loading	without condensation	+40 °C at 85 % rel. humidity, in line with EN 60068-2-30
Power supply		
DC supply		11 V to 32 V, max. 3 A
Product conformity		
Electromagnetic compatibility		applied standards: IEC EN 61326-1, EN 55011
Electrical safety		in line with IEC 61010-1, EN 61010-1, UL 61010-1, CAN/CSA-C22.2 No. 61010-1
Test mark	without R&S®EVSF1-B4 option	cCSA _{US} , KC
Maximum operating altitude	above sea level	4600 m (approx. 15100 ft)
Mechanical resistance		
Vibration	sinusoidal	5 Hz to 55 Hz displacement: 0.30 mm constant amplitude (1.8 g at 55 Hz); 55 Hz to 150 Hz acceleration: 0.5 g constant, in line with EN 60068-2-6
	random, without R&S®EVSF1-B4 option	8 Hz to 500 Hz, acceleration 1.2 g (RMS), in line with EN 60068-2-64
	random, with R&S®EVSF1-B4 option and R&S®EVSF1-Z1 tray	RTCA-DO-160G section 8: category S, test curve B
Shock	without R&S®EVSF1-B4 option	40 g shock spectrum, in line with MIL-STD-810 method no. 516.4, procedure I
	with R&S®EVSF1-B4 option and R&S®EVSF1-Z1 tray	RTCA DO-160G section 7: standard pulse/operational: category A, crash safety: category E
Calibration interval	recommended for highest accuracy	12 months
	for general test and measurement applications	24 months
Dimensions (W × H × D)	without R&S®EVSF1-B4 option	95 mm × 177 mm × 360 mm (3.74 in × 6.98 in × 14.17 in)
	with R&S®EVSF1-B4 option and R&S®EVSF1-Z1 tray	95 mm × 186 mm × 416 mm (3.74 in × 7.32 in × 16.38 in)
Weight	without R&S®EVSF1-B4 option	3.7 kg (8.16 lb)
	with R&S®EVSF1-B4 option	3.9 kg (8.60 lb)
	R&S®EVSF1-Z1 tray	0.8 kg (1.76 lb)

Ordering information

Designation	Type	Order No.
VHF/UHF nav/flight analyzer	R&S®EVSF1000	1330.0008.02
Accessories supplied		
Getting started guide, English		
Hardware options		
Slide in option, factory fitted (retrofit not possible)	R&S®EVSF1-B4	1330.1404.02
Software options		
ILS CRS/CLR analysis	R&S®EVSG-K1	1329.9005.02
VOR analysis	R&S®EVSG-K2	1329.9011.02
MB analysis	R&S®EVSG-K3	1329.9028.02
GBAS mode	R&S®EVSG-K4	1329.9034.02
SCAT I mode	R&S®EVSG-K5	1329.9040.02
COM analysis	R&S®EVSG-K6	1329.9057.02
LF analysis	R&S®EVSG1-K7	1329.9163.02
RF spectrum analysis	R&S®EVSG-K10	1329.9063.02
AF spectrum analysis	R&S®EVSG-K11	1329.9070.02
I/Q data streaming	R&S®EVSG1-K25	1329.9157.02
Recommended extras		
Documentation of calibration values	R&S®DCV-2	0240.2193.10
Tray, with mating connector (for R&S®EVSF1000 with R&S®EVSF1-B4 option)	R&S®EVSF1-Z1	1330.1410.02
Service adapter, with mating connector (for R&S®EVSF1000 with R&S®EVSF1-B4 option)	R&S®EVSF1-Z2	1330.1427.02
External power supply (100 V to 240 V)	R&S®EVSG1-Z8	1330.0289.02
Verification test software	R&S®EVSG1-Z11	1329.8921.02

Warranty		
Base unit		3 years
All other items ⁴		1 year
Options		
Extended warranty, one year	R&S®WE1	Contact your local Rohde & Schwarz sales office
Extended warranty, two years	R&S®WE2	
Extended warranty with calibration coverage, one year	R&S®CW1	
Extended warranty with calibration coverage, two years	R&S®CW2	

Extended warranty with a term of one and two years (WE1 and WE2)

Repairs carried out during the contract term are free of charge ⁵. Necessary calibration and adjustments carried out during repairs are also covered.

Extended warranty with calibration coverage (CW1 and CW2)

Enhance your extended warranty by adding calibration coverage at a package price. This package ensures that your Rohde & Schwarz product is regularly calibrated, inspected and maintained during the term of the contract. It includes all repairs ⁵ and calibration at the recommended intervals as well as any calibration carried out during repairs or option upgrades.

⁴ For options that are installed, the remaining base unit warranty applies if longer than 1 year. Exception: all batteries have a 1 year warranty.

⁵ Excluding defects caused by incorrect operation or handling and force majeure. Wear-and-tear parts are not included.

Service at Rohde & Schwarz
You're in great hands

- ▶ Worldwide
- ▶ Local and personalized
- ▶ Customized and flexible
- ▶ Uncompromising quality
- ▶ Long-term dependability

Rohde & Schwarz

The Rohde&Schwarz technology group is among the trail-blazers when it comes to paving the way for a safer and connected world with its leading solutions in test & measurement, technology systems and networks&cybersecurity. Founded more than 85 years ago, the group is a reliable partner for industry and government customers around the globe. The independent company is headquartered in Munich, Germany and has an extensive sales and service network with locations in more than 70 countries.

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- ▶ Environmental compatibility and eco-footprint
- ▶ Energy efficiency and low emissions
- ▶ Longevity and optimized total cost of ownership

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