

Specifications in brief

Frequency				Operating modes	internal, external
Range	SME02/03	5 kHz to 1.5/3 GHz		Internal data generator	programming of data, level switching and burst output
	SME03E/06	5 KHz to 2.2/6 GHz		Storage capacity	3 x 8192 bit
Resolution		0.1 Hz		Frequency accuracy	same as reference frequency
Setting time		<10 ms		PRBS (pseudo-random bit sequence)	selectable lengths: 2^2-1 , $2^{15}-1$, $2^{20}-1$, $2^{21}-1$ or $2^{23}-1$
after IEC/IEEE-bus delimiter		<500 μ s		FSK	to Cityruf, POCSAG, FLEX specs
after trigger pulse in list mode		adjustable in steps of 1°		Shift, filtered	4/4.5/4.8 kHz
Phase offset				unfiltered	0.01 to 400 kHz, maximum shift depending on carrier frequency
Reference frequency		standard	option SM-B1	Data rate, filtered	0.05 to 90 kbit/s
Aging (after 30 days of operation)		1×10^{-6} /year	$<1 \times 10^{-9}$ /day	unfiltered	0.05 to 1900 kbit/s
Temperature effect (0 to 55°C)		2×10^{-6}	$<5 \times 10^{-8}$	FFSK	to Cityruf, POCSAG specifications
Spectral purity				Shift	1.5/2/3/3.5/4/4.5 kHz
Spurious signals				Data rate	0.05 to 90 kbit/s
Harmonics		<-30 dBc, <-26 dBc with SM-B3/B8/B9		4FSK	to APCO25, ERMES, FLEX, MODACOM specifications
Nonharmonics at				Shift	0.01 to 400 kHz, maximum shift depending on carrier frequency
>5 kHz from carrier, f <1.5 GHz		<-80 dBc		Data rate	1 to 24.3/27 to 48.6 kbit/s
SSB phase noise at 20 kHz from carrier, 1 Hz bandwidth,				GFSK	to CT2, CT3, DECT specifications
FM/ ϕ M deviation <5% of max. deviation				Shift	18/160/288 kHz as well as non-standard shifts
<93.75 125 250 MHz 0.5 1 2 3 6 GHz				Data rate	10 to 585/640 to 1170 kbit/s
<-129 <-140 <-137 <-132 <-126 <-120 <-116 <-116 dBc				GMSK	to CDPD, GSM 1800, DSRR, GSM, MC9, MD24 to MD192, MOBITEX8000 specifications
Residual FM, rms (f=1 GHz)		<1 Hz		Data rate	2.4/3.6/4/4.8/6/8/9.6/10/12/16/19.2/270.833/1000 kbit/s
0.3 to 3 kHz (CCITT)		<4 Hz		QPSK, $\pi/4$ DQPSK	to APCO25, MSAT, NADC, PDC, TETRA, TETS specifications
0.03 to 20 kHz				for f >3 GHz	not specified
Level		-144 to +13 dBm		Data rate	1 to 24.3/27 to 48.6 kbit/s
Resolution		0.1 dB		Filter	$\sqrt{\cos 0.35/0.4/0.5/0.6}$ $\cos 0.2/0.35/0.4/0.5/0.6$
Accuracy for levels >-127dBm		± 1 dB		Amplitude modulation, pulse modulation, internal modulation generator, LF generator, multifunction generator, stereo multiplex signal, VOR modulation signal, ILS modulation signal, pulse generator and sweep see SMT, page 210	
f <1.5 GHz		± 1.5 dB		List mode	automatic, single-shot, manual, externally triggered
f >1.5 GHz		± 2 dB		(not SME03E)	2000
f >3 GHz		1 dB, typ. 0.3 dB		Max. number of channels	1 ms to 1 s
Level frequency response at 0 dBm				Step time	
Overload protection		protects the unit from externally applied RF power (50 Ω source) and DC voltage, SME02 and 03: ≤ 50 W/35 V; SME06: ≤ 1 W/0 V		Remote control	IEC 625 (IEEE 488)
Simultaneous modulation		any combination of AM, FM (ϕ M), pulse modulation and DM (DM = FSK, 4FSK, FFSK, GFSK, GMSK or QPSK)		Command set	SCPI 1992.0
Frequency modulation		with option SM-B5		General data	
Operating modes		internal, external AC/DC, two-tone with two separate channels FM1 and FM2		Power supply	90 to 132/180 to 265 V, 47 to 440 Hz, autosegging to AC voltage, max. 300 VA
Maximum deviation		depending on carrier frequency: 500 kHz (<130 MHz) to 4 MHz (6 GHz)		Dimensions (W x H x D)	435 mm x 192 mm x 460 mm
Setting error at AF=1 kHz		<3% of reading + 20 Hz		Weight	25 kg for fully equipped unit
FM distortion at AF=1 kHz and 50% of max. deviation		<0.5%, typ. 0.05%		Ordering information	
Modulation frequency range for maximum deviation		DC to 500 kHz		Signal Generator	SME02 1038.6002.02
for <25% of max. deviation		DC to 2 MHz		SME03	1038.6002.03
Carrier frequency offset with FM		depending on carrier frequency: <50 Hz (f_c <93.75 MHz) to <100/200 Hz (f_c 1.5/3 GHz) +1 % of deviation		SME03E	1038.6002.13
Phase modulation		with option SM-B5		SME06	1038.6002.06
Operating modes		internal, external AC/DC, two-tone with two separate channels ϕ M1 and ϕ M2		Options	
Maximum deviation		depending on carrier frequency: 5 rad (f_c <130 MHz) to 40 rad (f_c 6 GHz)		Reference Oscillator OCXO	SM-B1 1036.7599.02
Setting error at AF=1 kHz		<3% of reading + 0.01 rad		LF Generator	SM-B2 1036.7947.02
Distortion at AF=1 kHz and 50% of max. deviation		<1 %		Pulse Modulator for SME02	SM-B3 1036.6340.02
Modulation frequency range		DC to 100 kHz		for SME03	SM-B8 1036.6805.02
Digital modulation		with option SME-B11, standard in SME03E		for SME06	SM-B9 1039.5100.02
Modulation modes		FSK, 4FSK, FFSK, GFSK, GMSK, QPSK, $\pi/4$ DQPSK		Pulse Generator (only in combination with SM-B3, SM-B8 or SM-B9)	SM-B4 1036.9310.02
				FM/ ϕ M Modulator	SM-B5 1036.8489.02
				Multifunction Generator	SM-B6 1036.7760.02
				DM Coder	SME-B11 1036.8720.02
				DM Memory Extension (8 Mbit)	SME-B12 1039.4090.02
				FLEX Protocol	SME-B41 1039.5645.02
				POCSAG Protocol	SME-B42 1039.5745.02
				Rear Connectors for RF and LF	SME-B19 1039.3907.02