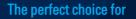
ROHDE & SCHWARZ Make ideas real

CMA RADIO TEST SET Ultimate RF testing solution



Truly uncompromised in flexibility

The CMA is a radiocommunications tester for radio systems that operate in the 100 kHz to 3 GHz range. Its technology is based fully on digital signal processing and advanced computing. Intuitive operation and efficient measurement capabilities make the CMA an indispensable tool for performing radio measurements.



Servicing and	Testing onboard aircraft equipment Recording and playing back proprietary signals	Key specifications		
maintaining analog		Frequency range	100 kHz to 3 GHz	
and digital radios		RF bandwidth	20 MHz	
		LMR standards	AM, FM, PM, SSB, DMR, APCO P25, dPMR, NXDN, TETRA, LTE/FirstNet, WLAN and Bluetooth® – ARB and vector analysis (R&S®VSE)	
Service testing of GNSS receivers				
		Max. input power	100 W (cont.) 150 W (1 min.)	
		Signal level for receiver measurements	power can be lowered to -140 dBm	
		Generator phase noise	–110 dBc/Hz or better at 10 kHz offset	
		I/Q recorder	min. sample rate = 500 Hz, up to 64 Msample	
		ARB generator	4 Gbyte	

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Avionics

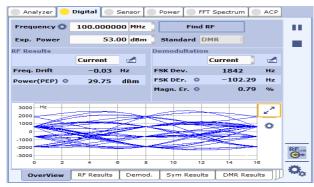
ILS, VOR, MB generator, VoIP

Your benefit	Features
No trade-offs	 Easy and intuitive touch user interface Analog modulation and demodulation Up to 150 W peak input power and up to 100 W continuous input power Integrated audio generators Integrated sweeping spectrum analyzer, tracking generator and oscilloscope Audio quality tests (SINAD, THD, SNR) A-GNSS generator: GPS, GLONASS, Galileo, BeiDou R&S*CMArun – built-in sequencer tool
Integrated avionics	 AM communications tester ILS/VOR and marker beacon generator VoIP in line with EUROCAE ED-137B/C for ATC radios (generator and analyzer)
Digital flexibility	 I/Q recorder and ARB generator Digital signal analysis of proprietary waveforms Digital receiver and transmitter measurements (DMR, APCO P25, dPMR, NXDN, TETRA, LTE/FirstNet) POCSAG and Zigbee receiver measurements



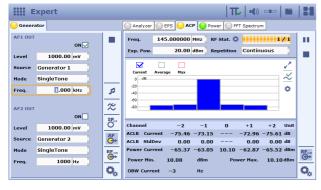
For more information, visit www.rohde-schwarz.com/product/CMA180

Digital transmitter testing



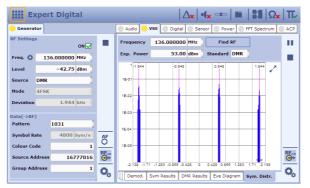
DMR transmitter testing with demodulation results, eye diagram, symbol distribution and RF results

Adjacent channel power (ACP) and occupied bandwidth



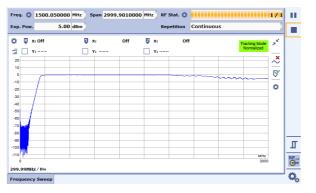
Measuring adjacent channel power and occupied bandwidth

Digital generator for receiver tests



Generation of DMR signals in line with ETSI and other digital standards

Tracking generator



Measuring and tuning RF filters with the built-in tracking generator

Diverse, future-ready configuration options

Ш т	X Test					RX 4		88 TI
Generator Analyzer Sensor Power FFT Spectrum ACP								
VoIP	ON 🗹		Frequency		33.000000 M		id RF	
FID	i 133.000		Frequency	- oner	55.00		<i>w</i>	
Appl	ly to Meas. RF 🛛 🗹		rrequency	Curre	nt Avera	je Maximum	Std. Dev.	Unit
URI	i sip: tx		Frequency	1.020	08 1.020	0 1.0209	0.0006	kHz
	10.121.3.210		Signal Quali					
AF(->VoIF	?)			@ 10	20.0 Hz, HP 6	Hz		
	ON 🗹			Curre	ent Avera	ige Extreme	Std. Dev.	Unit 📿
Level	-10.000 dBm0	VolP	THD[%]	0 0	.0587 0	0592 0.06	28 0.0011	» <u>~</u>
Source	Generator 4		THD[dB]	-64				dB
Mode	SingleTone		THD+N	0 0	.9774 0	9779 0.98		%
Hode	SingleTone	AF Ö	SINAD	o 40	.20 40	19 40.22	0.01	dB
Freq.	1020 Hz	<u> </u>	S/N	o 40	.21 40	21 40.23	0.01	dB
Dialing			(S+N)/N	0 39	.13 39	13 39.15	0.01	dB 😽
Mode 🔅	DTMF		(S+N+D)/N	0 39	.13 39	13 39.15	0.01	dB 🕌
	Dial	O ₀	OverView 1	Frim RF Re	sults AF Resu	Its AF Spectrum	AF Oscilloscope T	ones 🛱

Integrated VoIP generator for testing air traffic controller equipment in line with ED-137B/C $\,$

IIII Avio	onics			•(x ===	💵 🏭 T
🔵 VOR 🥚 IL	.s 🔵 Marker Bea	con 🦲 Analyzei	•		
RF Settings Freq. 🎲	108.100000 MH -60.00 dB		RF 🗹 RF COM	Control Start Generati	or autom. 🗹
Ext. Att. Mod. AM Frequency Pa	0.00 dB		AF AF1 OUT	my Info -15.00	Fly Left
AF Settings	On 🗸			ID Signal	D i
SDM	40.00 %			Mod. Depth	30.00 %
DDM	0.00 %	Fly	Left	Freq.	1020 Hz
Freq. 1	90 Hz	Mod. Depth	20.00 %		Ğ
Freq. 2	150 Hz	Mod. Depth	20.00 %		RF
Phase Offset	0.00 °				
Localizer G	ide Slope				

Instrument landing system (ILS) features integrated into the CMA for airborne instrument testing

Popular options					
Hardware options					
Baseband generator, 4 Gbyte	R&S®CMA-B110D				
Software options					
Spectrum analyzer, tracking generator, oscilloscope	R&S®CMA-K120				
ILS/VOR generator	R&S®CMA-K130				
I/Q recorder	R&S®CMA-K220				
Signal analyzer, base	R&S®CMA-K300				
Signal analyzer, digital (APCO, DMR, NXDN, dPMR, TETRA)	R&S®CMA-K305				
Signal analyzer, LTE FDD	R&S®CMA-K320				
Accessories					
Transit case	R&S®CMA-Z020A				
Soft case	R&S®CMA-Z025A				

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