



# R&S®SMCV100B VECTOR SIGNAL GENERATOR

## Maximum flexibility in applications and in production

The perfect choice for



General purpose	Labs
EMC testing and validation	Manufacturing

Key specifications	
Frequency	4 kHz to 3 / 6 / 7.125 GHz
RF output power	Up to +25 dBm
Phase noise	< -125 dBc (at 1 GHz, 10 kHz offset)
Display	5" touch display (800 x 480 pixel)

### Product description

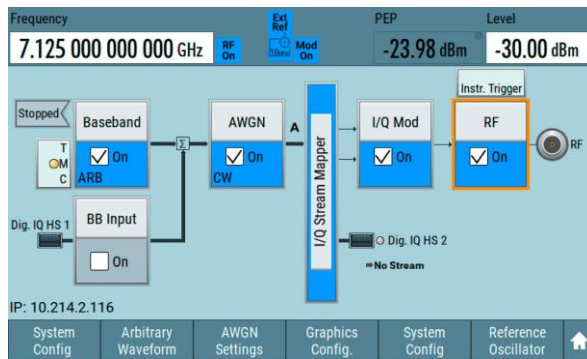
- ▶ The R&S®SMCV100B features a new direct RF DAC concept for RF signal generation. This concept enables I/Q modulation and upconversion in the digital domain, eliminating the I and Q imbalance errors and LO leakage found in conventional analog I/Q modulators.
- ▶ The R&S®SMCV100B options concept is fully software defined. No additional hardware needs to be installed to maintain full device functionality. This also includes the upgrade of the RF frequency, memory, I/Q modulation bandwidth and all other R&S®SMCV100B options that can be used to cover different applications.

Your benefit	Features
First multi-standard platform for automotive, broadcast, navigation and wireless applications	<ul style="list-style-type: none"> <li>▶ Modern RF signal generation concept with direct RF from 8 kHz up to 7.125 GHz                             <ul style="list-style-type: none"> <li>- 4 kHz up to 7.125 GHz</li> <li>- Direct RF upconversion up to 2.5 GHz</li> <li>- Modulation bandwidth up to 240 MHz</li> </ul> </li> <li>▶ Powerful internal baseband generator                             <ul style="list-style-type: none"> <li>- Real-time broadcast coder</li> <li>- Custom digital modulation</li> <li>- Internal baseband signal generation with ARB</li> </ul> </li> <li>▶ I/Q streaming capabilities                             <ul style="list-style-type: none"> <li>- Playback of long I/Q sequences from solid state disk drive for EMC testing</li> </ul> </li> <li>▶ Support of R&amp;S®WinIQSIM2™ waveform generation                             <ul style="list-style-type: none"> <li>- Wireless standards such as 5G NR, LTE, noncellular IoT, Wi-Fi (IEEE 802.11)</li> <li>- Navigation standards for functional Go/NoGo tests and predefined position fix tests</li> </ul> </li> </ul>
Maximum flexibility in production	<ul style="list-style-type: none"> <li>▶ From functional end-of-line testing (EOLT) to application-specific device software testing</li> <li>▶ Temporary and transferable software licenses</li> <li>▶ Fully software defined signal generation for easy upgrading at customer site</li> <li>▶ Standardization of production lines with a single vector signal generator</li> <li>▶ Minimizes production line downtime</li> </ul>
User friendly in every detail	<ul style="list-style-type: none"> <li>▶ Half a rack size, great performance, leading operating concept with block diagrams</li> <li>▶ 5" touch display (800 x 480 pixel) in a 2 HU instrument</li> <li>▶ SCPI macro recorder</li> </ul>



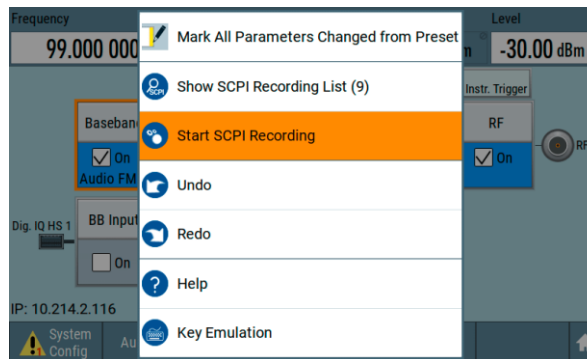
致力于电子测试、维护领域!

## Graphical user interface with block diagrams



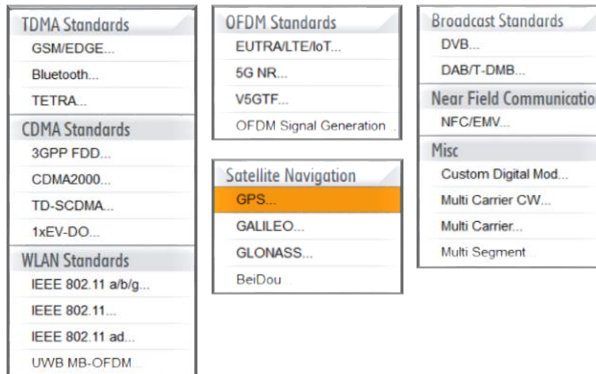
Instantly see the signal flow in the R&S®SMCV100B as well as the status of instrument inputs and outputs. An integrated graphic function displays the generated signal in real time.

## Built-in SCPI macro recorder



The integrated SCPI macro recorder has a built-in code generator that allows users to automatically record all manual settings and create a directly executable MATLAB® script.

## R&S®WinIQSIM2™ waveform generation



Modulated signals for different standards can be generated with the R&S®WinIQSIM2™ simulation software. The software supports wireless standards such as 5G and LTE and the generation of noncellular signals such as Wi-Fi (IEEE 802.11x) and many others.

## Digital standards

Cellular standards	
GSM/EDGE	R&S®SMCVB-K240
EDGE Evolution	R&S®SMCVB-K241
3GPP FDD	R&S®SMCVB-K242
CDMA2000®	R&S®SMCVB-K246
1xEV-DO Rev. A	R&S®SMCVB-K247
TD-SCDMA	R&S®SMCVB-K250
TD-SCDMA enhanced BS/MS tests	R&S®SMCVB-K251
EUTRA/LTE	R&S®SMCVB-K255
3GPP FDD HSPA/HSPA+, enhanced BS/MS tests	R&S®SMCVB-K283
EUTRA/LTE Release 9 and enhanced features	R&S®SMCVB-K284
EUTRA/LTE Release 10 (LTE-Advanced)	R&S®SMCVB-K285
1xEV-DO Rev. B	R&S®SMCVB-K287
EUTRA/LTE Release 12	R&S®SMCVB-K413
Cellular IoT	R&S®SMCVB-K415
Verizon 5GTF signals	R&S®SMCVB-K418
LTE Release 13 and 14	R&S®SMCVB-K419
Cellular IoT enhancements	R&S®SMCVB-K443
5G NR	R&S®SMCVB-K444
Cellular IoT Release 15	R&S®SMCVB-K446

## Order information and popular options

Description	Item
Vector signal generator	R&S®SMCV100B
<b>Frequency options</b>	
8 kHz to 3 GHz	R&S®SMCV-B103
Frequency extension to 6 GHz	R&S®SMCVB-KB106
Frequency extension to 7.125 GHz	R&S®SMCVB-KB107
<b>RF options</b>	R&S®SMCV-B103
High output power	R&S®SMCVB-K31
Low phase noise	R&S®SMCVB-K709

## Digital standards

Wireless connectivity standards	
IEEE 802.11 (a/b/g/n/j/p)	R&S®SMCVB-K254
Bluetooth® EDR	R&S®SMCVB-K260
IEEE 802.11ac	R&S®SMCVB-K286
Bluetooth® 5.0	R&S®SMCVB-K417
LORA	R&S®SMCVB-K431
IEEE 802.11ax	R&S®SMCVB-K442
<b>Navigation standards</b>	
GPS (1 satellite)	R&S®SMCVB-K244
Galileo (1 satellite)	R&S®SMCVB-K266
GLONASS (1 satellite)	R&S®SMCVB-K294
NavIC/IRNSS (1 satellite)	R&S®SMCVB-K297
Modernized GPS	R&S®SMCVB-K298
Beidou	R&S®SMCVB-K407
Modernized BeiDou (1 satellite)	R&S®SMCVB-K432
<b>Broadcast standards</b>	
DVB-H/DVB-T	R&S®SMCVB-K252
DAB/T-DMB	R&S®SMCVB-K253
DVB-S2/DVB-S2X	R&S®SMCVB-K416
<b>Other standards and modulation systems</b>	
Multicarrier CW signal generation	R&S®SMCVB-K261
Additive white Gaussian noise (AWGN)	R&S®SMCVB-K262
NFC A/B/F	R&S®SMCVB-K289
OFDM signal generation	R&S®SMCVB-K414