R&S®SMATE-B90/ R&S®SMU-B90 Phase Coherence
Specifications

75 Years of Driving Innovation

ROHDE & SCHWARZ

Phase coherence
(R&S®SMU-B90, R&S®SMATE-B90 option)

The R&S© SMU-B90 or R&S© SMATE-B90 option enables phase-coherent RF outputs of two or more RF paths of one or more instruments, where the participating instruments must use I/Q modulation.

Specifications apply under the following conditions: 30 minutes warm-up time at ambient temperature, specified environmental conditions met, calibration cycle adhered to, and all internal automatic adjustments performed. "Typical values" are designated with the abbreviation "typ." These values are verified during the final test but are not assured by Rohde & Schwarz. "Nominal values" are design parameters that are not assured by Rohde & Schwarz. These values are verified during product development but are not specifically tested during production.

Prerequisite for installation – R&S®SMU200A

The R&S®SMU-B90 option can be installed in R&S®SMU200A with s/n 103001 or higher.

Prerequisite for installation – R&S®SMATE200A

The R&S®SMATE-B90 option can be installed in R&S®SMATE200A with s/n 100500 or higher.

Additional specifications for the R&S®SMU200A, R&S®SMATE200A

The R&S© SMU-B90 or R&S© SMATE-B90 option enables phase-coherent RF outputs of two or more RF paths of one or more instruments, where the participating instruments must use I/Q modulation.

Coupling modes	Internal	This mode corresponds to a normal operation. Each RF path uses its internal local oscillator.
	External	An external signal is used for path A. With a two-path instrument, the internal local oscillator signal is used for path B.
	Coupled A->B	The local oscillator signal of path A is used also for path B (this selection is only available for two-path instruments).
	Externally coupled A->B	An external signal is input on the LO IN connector and used for the coupled paths A and B (this selection is only available for two-path instruments).
LO out state	The internal local oscillator signal used with path A is also available on the LO OUT connector (in order to couple two instruments).	on
	The LO OUT signal is switched off.	off

Frequency range	Internal mode (no LO coupling)	
	underrange	100 kHz to <300 kHz
	R&S®SMU-B102, R&S®SMU-B202	up to 2 GHz
	R&S®SMU-B103, R&S®SMU-B203, R&S®SMATE-B103, R&S®SMATE-B203	up to 3 GHz
	R&S®SMU-B104	up to 4 GHz
	R&S®SMU-B106, R&S®SMATE-B106, R&S®SMATE-B206	up to 6 GHz
	External modes, coupled A->B, externally coupled A->B	
	R&S® SMU-B102 and R&S® SMU-B202	200 MHz to 2 GHz
	R&S® SMU-B103 and R&S® SMU-B203	200 MHz to 3 GHz
	R&S® SMATE-B103 and R&S® SMATE-B203	200 MHz to 3 GHz
	R&S® SMATE-B106 and R&S® SMATE-B206	200 MHz to 6 GHz
	other configurations	Coupling is possible within the smallest common frequency range of all RF paths which are to be coupled.
Levels of external local oscillator signals	LO IN	10 dBm to 16 dBm, nominal
	LO OUT	13 dBm, nominal
Phase	drift	
	versus temperature	0.1°, nominal when changing ambient temperature by 1 °C
	versus time	0.02°/h, nominal
	versus level	2°/dB, nominal
	setting range (by using the baseband phase offset)	0.00° to 359.99°
	setting resolution	0.01°

Ordering information

Designation	Type	Order No.
Phase Coherence	R&S®SMU-B90	1409.8604.02
Phase Coherence	R&S®SMATE-B90	1404.9531.02

About Rohde & Schwarz

Rohde & Schwarz is an independent group of companies specializing in electronics. It is a leading supplier of solutions in the fields of test and measurement, broadcasting, radiomonitoring and radiolocation, as well as secure communications. Established 75 years ago, Rohde & Schwarz has a global presence and a dedicated service network in over 70 countries. Company headquarters are in Munich, Germany.

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ISO 14001
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