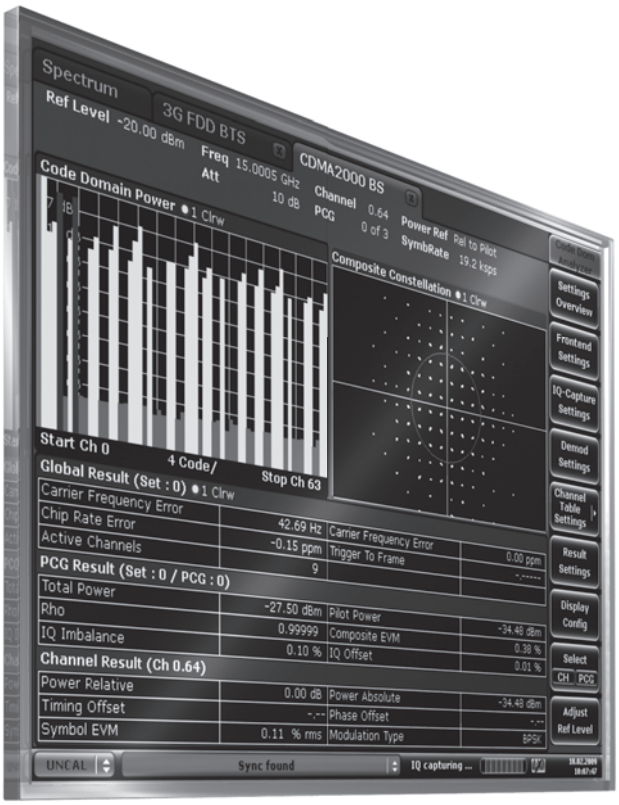
R&S®FSV-K82
CDMA2000® BS (DL) Analysis
Specifications



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Test & Measurement

Data Sheet | 02.00

Specifications

The specifications of the R&S®FSV-K82 application firmware for CDMA2000® BS (DL) analysis are based on the data sheet of the R&S®FSV signal and spectrum analyzer. Specifications apply under the following conditions: 30 minutes warm-up time at ambient temperature, frequency lower than 3 GHz, 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. Data without tolerance limits is not binding.

Frequency

Frequency range	R&S®FSV3	20 MHz to 3 GHz
	R&S®FSV7	20 MHz to 7 GHz

Level

Level range	RF input	–60 dBm to +30 dBm

Signal acquisition

Supported standards		CDMA2000® BTS
		IS-95 BTS
Capture length		up to 31360 power control groups
Sweep time	spectrum mask, adjacent channel leakage power ratio (ACLR)	max. 16000 s, auto max. 16000 s
Sweep count		1 to 32767
Trigger modes	code domain analysis	free run, external
	RF measurements	free run, external, if power

Measurement parameters

Frequency band	predefined bands	band classes 0 to 17
	unspecified	limits can be user-specified
Link mode		downlink (DL)
Modulation detection		BPSK, QPSK, 8PSK, 16QAM
Predefined channel table	code domain analyzer	The predefined channel table makes it possible to configure the complete channel setup of the user signal for the code domain analyzer.
Spectrum emission mask	standard	in line with band classes 0 to 17
	user	The spectrum emission mask is measured in line with either the manual user setting or a user-specified XML file.

Result diagrams

Result summary	min./mean/current/max. values	global results: carrier frequency error (reading in Hz and ppm), chip rate error, trigger to frame, number of active channels
		results for selected power control group: total power, pilot power, rho, composite EVM, I/Q imbalance, I/Q offset
		results for selected power control group: absolute power, relative power, symbol EVM, modulation type, timing offset, phase offset
Code domain power	clear write, max. hold, min. hold, average, view	code domain power versus channel code domain error power versus channel
Peak code domain error	clear write, max. hold, min. hold, average, view	peak code domain error power versus power control group
Power versus power control group	clear write, max. hold, min. hold, average, view	power versus power control group for selected channel
Channel table	clear write, max. hold, min. hold, average, view	numeric result table for all channels including the following readings per channel: channel type, channel number, spreading factor, symbol rate, radio configuration, state, absolute power, relative power, timing offset, phase offset
Composite EVM	clear write, max. hold, min. hold, average, view	EVM versus power control group
EVM versus symbol	clear write, max. hold, min. hold, average, view	EVM versus symbol for selected channel and power control group
Power versus symbol	clear write, max. hold, min. hold, average, view	power versus symbol for selected channel and power control group
Channel constellation	clear write	constellation diagram for selected channel and power control group
Composite constellation	clear write	constellation diagram for composite signal
Bit stream	clear write	bit stream for selected channel and power control group
Output power	clear write, max. hold, min. hold, average, view, blank	integrated signal power over channel bandwidth
Adjacent channel power, multicarrier adjacent channel power	clear write, max. hold, min. hold, average, view, blank	absolute and relative adjacent channel power
Spectrum emission mask	clear write, max. hold, min. hold, average, view, blank	spectrum mask limit check, peak list evaluation
Occupied bandwidth	clear write, max. hold, min. hold, average, view, blank	occupied bandwidth measured in frequency domain
CCDF	clear write, view, blank	CCDF

Measurement specification (nominal)

Code domain power		
Level uncertainty, total power		< 0.5 dB
Level uncertainty, pilot power	absolute	< 0.6 dB
Level uncertainty, channel power	absolute	< 0.6 dB
	relative	< 0.1 dB

Composite EVM		
Measurement range		0.6 % to 25 %
Inherent EVM		< 0.6 %
Measurement uncertainty	composite EVM < 10%	< 0.6 %
	composite EVM > 10%	< 1.0 %

Frequency error measurement		
Lock range		±3 kHz
Measurement uncertainty		2 Hz + reference frequency uncertainty (see R&S®FSV frequency uncertainty)

Peak code domain error		
Measurement range		0 dB to –55 dB
Inherent PCDE		< –55 dB

Trigger to frame		
Measurement range		< ±500 µs
Accuracy	relative	< 210 ns

Rho		
Measurement uncertainty	composite EVM < 10 %	±0.0010
	composite EVM < 25 %	±0.0030

Occupied bandwidth		
Measurement uncertainty	99 % power bandwidth, span 4.2 MHz	±10 kHz

Spectrum emission mask		
Dynamic range (P_{total} > –20 dBm) [1]		> 81.4 dB

Adjacent channel leakage ratio		
Dynamic range (P_{total} > –20 dBm) [1]	noise correction OFF (nominal)	> 81.4 dB
	noise correction OFF (average result of 100 sweeps)	> 84.3 dB
	noise correction ON (nominal)	> 82.0 dB
	noise correction ON (average result of 100 sweeps)	> 87.0 dB (with noise correction)

[1] The specified dynamic range is the ratio of the channel power to the power at an offset of 750 kHz, measured with 30 kHz integration bandwidth.

Ordering information

Designation	Type	Order No.
CDMA2000® BS (DL) Analysis	R&S®FSV-82	1310.8703.02
Signal Analyzer 9 kHz to 3.6 GHz	R&S®FSV3	1307.9002.03
Signal Analyzer 9 kHz to 7 GHz	R&S®FSV7	1307.9002.07
Recommended options and extras	see also the specifications for the R&S®FSV signal and spectrum analyzer (PD 5214.0499.22)	

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For product brochure,
see PD 5214.1714.12
and www.rohde-schwarz.com

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 | Printed in Germany (as)
PD 5214.1714.22 | Version 02.00 | May 2009 | R&S®FSV-K82
Subject to change

*0.14 €/min within German wireline network; rates may vary in other networks (wireline and mobile) and countries.