R&S®SMCVB-KV19
Satellite Interferers Waveforms
User Manual

1179284802
Version 02

ROHDE&SCHWARZ
Make ideas real

This document describes the following software options:

- R&S®SMCVB-KV19 Satellite Interferers (1434.5611.xx)

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1179.2848.02 | Version 02 | R&S®SMCVB-KV19

The following abbreviations are used throughout this manual: R&S®SMCV100B is abbreviated as R&S SMCV100B.

Contents

1 Welcome to the R&S SMCVB-KV19 option

The R&S SMCVB-KV19 is a waveform library that provides waveform files in accordance with analog satellite TV standards and digital satellite TV standards.

This user manual contains a reference description of the functionality that the waveform library provides. All functions not discussed in this manual are described in the R&S SMCV100B user manual. The latest version is available at:

www.rohde-schwarz.com/manual/SMCV100B

1.1 Key features

The R&S SMCVB-KV19 features:

- Numerous waveform files in accordance with analog/digital satellite TV standards
- Efficient use with dedicated waveforms as interferer signal

1.2 Installation

You can find detailed installation instructions in the supplement document of the R&S SMCV100B user manual and in the R&S SMCV100B user manual describing firmware versions FW 4.90.002.xx and later of the R&S SMCV100B.

1.3 What's new

Compared to the previous version there are editorial changes only.

1.4 Documentation overview

This section provides an overview of the R&S SMCV100B user documentation. Unless specified otherwise, you find the documents on the R&S SMCV100B product page at:

www.rohde-schwarz.com/manual/smcv100b

1.4.1 Getting started manual

Introduces the R&S SMCV100B and describes how to set up and start working with the product. Includes basic operations, typical measurement examples, and general information, e.g. safety instructions, etc. A printed version is delivered with the instrument.

1.4.2 User manuals and help

Separate manuals for the base unit and the software options are provided for download:

- Base unit manual
  Contains the description of all instrument modes and functions. It also provides an introduction to remote control, a complete description of the remote control commands with programming examples, and information on maintenance, instrument interfaces and error messages. Includes the contents of the getting started manual.
- Software option manual
  Contains the description of the specific functions of an option. Basic information on operating the R&S SMCV100B is not included.

The contents of the user manuals are available as help in the R&S SMCV100B. The help offers quick, context-sensitive access to the complete information for the base unit and the software options.

All user manuals are also available for download or for immediate display on the Internet.

1.4.3 Service manual

Describes the performance test for checking compliance with rated specifications, firmware update, troubleshooting, adjustments, installing options and maintenance.

The service manual is available for registered users on the global Rohde & Schwarz information system (GLORIS):

https://gloris.rohde-schwarz.com

1.4.4 Instrument security procedures

Deals with security issues when working with the R&S SMCV100B in secure areas. It is available for download on the Internet.

1.4.5 Printed safety instructions

Provides safety information in many languages. The printed document is delivered with the product.

1.4.6 Data sheets and brochures

The data sheet contains the technical specifications of the R&S SMCV100B. It also lists the options and their order numbers and optional accessories.

The brochure provides an overview of the instrument and deals with the specific characteristics.

See www.rohde-schwarz.com/brochure-datasheet/smcv100b

1.4.7 Release notes and open source acknowledgment (OSA)

The release notes list new features, improvements and known issues of the current firmware version, and describe the firmware installation.

The open-source acknowledgment document provides verbatim license texts of the used open source software.

See www.rohde-schwarz.com/firmware/smcv100b

1.4.8 Application notes, application cards, white papers, etc.

These documents deal with special applications or background information on particular topics.

See www.rohde-schwarz.com/application/smcv100b

2 Available waveform files

This chapter contains the description of the available waveform files sorted by signal type.

2.1 Analog satellite TV

16 MHz PAL Mono

Filename: SATFM_PAL_16MHZ_MONO.wv

Modulation: FM (wideband)

Analog satellite TV signal, PAL color bars 75%, 625 lines, vision modulation: FM, video precorrection: ITU R 405 1(625 lines), energy dispersal: 25 Hz/2 MHz pp, nominal video frequency deviation: 16 MHz/V.

Sound mono: sound A1Vision sound carrier spacing: 6.5 MHz, sound modulation: FM, audio carrier AF: 1 kHz, nominal frequency deviation: ±85 kHz, sound carrier/vision level: –17.8 dB.

16 MHz PAL Stereo

Filename: SATFM_PAL_16MHZ_STEREO.wv

Modulation: FM (wideband)

Analog satellite TV signal, PAL color bars 75%, 625 lines, vision modulation: FM, video precorrection: ITU-R 405-1(625 lines), energy dispersal: 25 Hz / 2 MHz pp, nominal video frequency deviation: 16 MHz/V.

Sound stereo:

- Sound A1Vision sound carrier spacing: 6.5 MHz, sound modulation: FM, audio carrier AF: 1 kHz, nominal frequency deviation: ±85 kHz, sound carrier/vision level: –17.8 dB.
- Sound A2Vision sound carrier spacing: 7.02 MHz, sound modulation: FM, audio carrier AF: 1 kHz, nominal frequency deviation: ±50 kHz, sound carrier/vision level: –22.5 dB.

22 MHz PAL Mono

Filename: SATFM_PAL_22MHZ_MONO.wv

Modulation: FM (wideband)

Analog satellite TV signal, PAL color bars 75%, 625 lines, vision modulation: FM, video precorrection: ITU-R 405-1(625 lines), energy dispersal: 25 Hz / 2 MHz pp, nominal video frequency deviation: 22 MHz/V.

Sound mono: sound A1Vision sound carrier spacing: 6.5 MHz, sound modulation: FM, audio carrier AF: 1 kHz, nominal frequency deviation: ±85 kHz, sound carrier/vision level: –17.8 dB.

22.5 MHz PAL Mono

Filename: SATFM_PAL_22_5MHZ_MONO.wv

Modulation: FM (wideband)

Analog satellite TV signal, PAL color bars 75%, 625 lines, vision modulation: FM, video precorrection: ITU-R 405-1(625 lines), energy dispersal: 25 Hz / 2 MHz pp, nominal video frequency deviation: 22.5 MHz/V.

Sound mono: sound A1Vision sound carrier spacing: 6.5 MHz, sound modulation: FM, audio carrier AF: 1 kHz, nominal frequency deviation: ±85 kHz, sound carrier/vision level: –17.8 dB.

22 MHz SECAM Mono

Filename: SATFM_SECAM_22MHZ_MONO.wv

Modulation: FM (wideband)

Analog satellite TV signal, SECAM color bars 75%, 625 lines, vision modulation: FM, video precorrection: ITU-R 405-1(625 lines), energy dispersal: 25 Hz / 2 MHz pp, nominal video frequency deviation: 22 MHz/V.

Sound mono: sound A1Vision sound carrier spacing: 6.5 MHz, sound modulation: AM, audio carrier AF: 1 kHz, modulation depth: 30%, sound carrier/vision level: –17.8 dB.

17 MHz NTSC Mono

Filename: SATFM_NTSC_16MHZ_MONO.wv

Modulation: FM (wideband)

Analog satellite TV signal, NTSC color bars 75%, 525 lines, vision modulation: FM, video precorrection: ITU-R 405-1(525 lines), energy dispersal: 29.97 Hz / 0.6 MHz pp, nominal video frequency deviation: 17 MHz/V.

Sound mono: sound A1Vision sound carrier spacing: 6.5 MHz, sound modulation: FM, audio carrier AF: 1 kHz, nominal frequency deviation: ±85 kHz, sound carrier/vision level: –17.8 dB.

2.2 Digital satellite TV

DVB-S 5 MS

Filename: DVB-S_4PSK_78_035_5MS.wv

Modulation: 4PSK, random test signal, code rate: 7/8, roll off: 0.35, 5 MSymbols/s

DVB-S 22 MS

Filename: DVB-S_4PSK_78_035_22MS.wv

Modulation: 4PSK, random test signal, code rate: 7/8, roll off: 0.35, 22 MSymbols/s

DVB-S 24.5 MS

Filename: DVB-S_4PSK_78_035_24_5MS.wv

Modulation: 4PSK, random test signal, code rate: 7/8, roll off: 0.35, 24.5 MSymbols/s

DVB-S 27.5 MS

Filename: DVB-S_4PSK_78_035_27_5MS.wv

Modulation: 4PSK, random test signal, code rate: 7/8, roll off: 0.35, 27.5 MSymbols/s

DVB-S 30 MS

Filename: DVB-S_4PSK_78_035_30MS.wv

Modulation: 4PSK, random test signal, code rate: 7/8, roll off: 0.35, 30 MSymbols/s

DVB-S2 5 MS, Roll Off 0.20

Filename: DVB-S2_8PSK_910_020_5MS.wv

Modulation: 8PSK, random test signal, code rate: 9/10, pilots: off; roll off: 0.20, 5 MSymbols/s

DVB-S2 5 MS, Roll Off 0.25

Filename: DVB-S2_8PSK_910_025_5MS.wv

Modulation: 8PSK, random test signal, code rate: 9/10, pilots: off; roll off: 0.25, 5 MSymbols/s

DVB-S2 5 MS, Roll Off 0.35

Filename: DVB-S2_8PSK_910_035_5MS.wv

Modulation: 8PSK, random test signal, code rate: 9/10, pilots: off; roll off: 0.35, 5 MSymbols/s

DVB-S2 22 MS, Roll Off 0.20

Filename: DVB-S2_8PSK_910_020_22MS.wv

Modulation: 8PSK, random test signal, code rate: 9/10, pilots: off; roll off: 0.20, 22 MSymbols/s

DVB-S2 22 MS, Roll Off 0.25

Filename: DVB-S2_8PSK_910_025_22MS.wv

Modulation: 8PSK, random test signal, code rate: 9/10, pilots: off; roll off: 0.25, 22 MSymbols/s

DVB-S2 22 MS, Roll Off 0.35

Filename: DVB-S2_8PSK_910_035_22MS.wv

Modulation: 8PSK, random test signal, code rate: 9/10, pilots: off; roll off: 0.35, 22 MSymbols/s

DVB-S2 27.5 MS, Roll Off 0.20

Filename: DVB-S2_8PSK_910_020_27_5MS.wv

Modulation: 8PSK, random test signal, code rate: 9/10, pilots: off; roll off: 0.20, 27.5 MSymbols/s

DVB-S2 27.5 MS, Roll Off 0.25

Filename: DVB-S2_8PSK_910_025_27_5MS.wv

Modulation: 8PSK, random test signal, code rate: 9/10, pilots: off; roll off: 0.25, 27.5 MSymbols/s

DVB-S2 27.5 MS, Roll Off 0.35

Filename: DVB-S2_8PSK_910_035_27_5MS.wv

Modulation: 8PSK, random test signal, code rate: 9/10, pilots: off; roll off: 0.35, 27.5 MSymbols/s

DVB-S2 30 MS, Roll Off 0.20

Filename: DVB-S2_8PSK_910_020_30MS.wv

Modulation: 8PSK, random test signal, code rate: 9/10, pilots: off; roll off: 0.20, 30 MSymbols/s

DVB-S2 30 MS, Roll Off 0.25

Filename: DVB-S2_8PSK_910_025_30MS.wv

Modulation: 8PSK, random test signal, code rate: 9/10, pilots: off; roll off: 0.25, 30 MSymbols/s

DVB-S2 30 MS, Roll Off 0.35

Filename: DVB-S2_8PSK_910_035_30MS.wv

Modulation: 8PSK, random test signal, code rate: 9/10, pilots: off; roll off: 0.35, 30 MSymbols/s

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