R&S®WV-K803, R&S®SFU-K353 DRM Waveforms

Specifications

DRM waveforms	I/Q sequences	in line with ETSI TS 201980, Digital Radio Mondiale
	release	V02.00
		see description of option for details
ARB memory (R&S®SFx-B3)	minimum required waveform memory	512 Mbyte (128 Msample)
	recommended waveform memory	1 Gbyte (256 Msample)
ARB clock rate	bandwidth	4.5/5/9/10/18/20 kHz (depends on loaded waveform)
	sampling rate	24 ksps, 48 ksps (depends on loaded waveform)
Transmission	transmission modes	A, B, C, D
	bandwidth	4.5/5.0/9.0/10.0/18.0/20.0 kHz
	constellation	
	SDC	4QAM, 16QAM
	MSC	16QAM, 64QAM
	code rate	0.5, 0.62 MSC 16QAM; 0.5, 0.6, 0.71, 0.78 MSC 64QAM (depends on loaded waveform)
	interleaver	short (0.4 s), long (2.0 s)
Signal set	sequence content	digital audio, speech, data (PRBS) (depends on loaded waveform)
	length	depends on loaded test vector
	minimum length	1.1 Mbyte
	maximum length	345 Mbyte
	directory	artificial, test, artificial_xHE-AAC, receiver test

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Artificial	purpose		source coding tests
	code rate		
		MSC part A	0.50, 0.60
		MSC part B	0.50, 0.60, 0.71, 0.78
	services		up to four services
		type	audio, audio (speech), audio and data, data
	audio		
		mean signal level	−12 dBFs
		identifications	45054, 45055
		language	3, 5, 6, 7, 14, 15
		language code	none, ger
		country code	none, de
		codec	AAC, AAC with SBR
		mode	mono
		sampling rate	12 kHz, 24 kHz
	audio (speech)		
		mean signal level	−12 dBFs
		identifications	255, 256, 4097, 4098, 45054, 45055
		language	English, French, German, Spanish, other languages
		language code	eng, fre, ger, ina, cpe, spa
		country code	gb, fr, de, va, gs, es
		codec	CELP, HVCX, HVCX with SBR
		mode	mono, stereo, parametric stereo
		sampling rate	8/12/24 kHz
	audio and data		
		mean signal level	−12 dBFs
		identifications	45054
		language	7
		language code	ger
		country code	de
		codec	AAC, AAC with SBR, CELP
		mode	mono, stereo, parametric stereo
		sampling rate	8/12/24 kHz
	data		
		mean signal level	−12 dBFs
		identifications	15

Test	purpose		function tests and performance measurements
	code rate		
		MSC part A	0.45, 0.48, 0.50, 0.55, 0.58, 0.60, 0.71
		MSC part B	0.45, 0.48, 0.50, 0.60, 0.62, 0.71, 0.78
	hierarchical mode		none, mixed, symmetrical
		code rate MSC part	0.50, 0.57, 0.60, 0.67
	services		one service and up to four services
		type	audio, audio (speech), audio and data, data, data (BERT)
	audio		
		mean signal level	−12 dBFs
		identifications	45054
		content	seamless (error free)
			sine 1 kHz (−6 dBFs)
		codec	AAC
		mode	mono, parametric stereo
		sampling rate	24 kHz
	audio (speech)		
		mean signal level	−12 dBFs
		identifications	255
		content	seamless (error free)
		language	5,
		language code	eng
		country code	gb
		codec	CELP
		mode	parametric stereo
		sampling rate	8 kHz

	audio and data	
	mean signal level	–12 dBFs
	identifications	45054
	content	seamless (error free)
	language	7
	language code	ger
	country code	de
	codec	AAC, AAC with SBR
	mode	mono, parametric stereo
	sampling rate	24 kHz
	data	
	mean signal level	–10 dBFs
	identifications	0, 1, 2, 3, 15, 45054, 1193046
	content	seamless (error free)
	data (BERT)	
	mean signal level	–10 dBFs
	identifications	0, 1, 2, 3
	content	seamless (error free)
		BER test pattern (BER 0.01, 0.1)

Artificial_xHE-AAC	purpose	source coding tests
	code rate	
	MSC part A	0.60
	MSC part B	0.78
	services	up to four services
	type	audio, audio and data, data
	audio	
	mean signal level	–20 dBFs
	identifications	7F7FF, 3F8, 45045 (depends on loaded waveform)
	language	German
	language code	none
	country code	none
	codec	HE-AAC, xHE-AAC
	mode	mono, SBR parametric stereo (depends on loaded waveform)
	sampling rate	44.1/48 kHz
	encoding rate	12/24/32/38.4 kHz
	audio and data	
	mean signal level	–20 dBFs
	identifications	45054
	language	German
	language code	none
	country code	none
	codec	xHE-AAC
	mode	mono, stereo
	data	
	mean signal level	–20 dBFs
	identifications	FF2FF2, 3EB

Receiver test	purpose	function tests and performance measurements
	code rate	
	MSC part A	0.50, 0.60, 0.71, 0.78
	MSC part B	0.50, 0.60, 0.71, 0.78
	hierarchical mode	none
	services	one service
	type	audio, data
	audio	
	mean signal level	−12 dBFs
	identifications	1, 3EA, 3F0
	language	German
	language code	de
	country code	de, ad, dz, ar, jp, in
	content	music, sweep
	codec	AAC, xHE-AAC
	mode	mono, stereo
	sampling rate	44.1/48 kHz
	encoding rate	12/24/32/38.4 kHz
	data	
	mean signal level	−12 dBFs
	identifications	1
Waveform support	R&S®SFU	full support of all DRM waveforms
	R&S®SFE	full support of all DRM waveforms
	R&S®SFE100	full support of all DRM waveforms
	R&S®BTC	full support of all DRM waveforms

Ordering information

Designation	Type	Order No.
DRM Waveforms	R&S®WV-K803	2116.9806.02
DRM Waveforms	R&S®SFU-K353	2110.4554.02

Certified Quality Management
ISO 9001

Certified Environmental Management
ISO 14001