VieRDS Parameter	Description	Category	Multi-Channel Feature	Default value
date_vec	Date of observation, defined as signal arrival time at geo-center, [yyyy, MM, dd, hh, mm, ss.s]	Date	no	[2019, 1, 24, 11, 0, 0]
scan_length	Scan length in sec (also known as observation time etc.)	Duration	no	1
sampling_frequency	Sampling frequency of channel in MHz	Sampling	no	32
number_of_bits	Number of bits used for amplitude quantization, possible values: 1,2	Quantization	no	2
station_name	two letter code label of station/telescope, char	Station Name	no	Hb
station_name_trf_coord	two letter code label according to TRF database, char	Station Name	no	Hb
station_name_8character	8 letter station name (required for VEX file, must be consistent with 2 letter code)	Station Name	no	STATION1
source_name	name of source (according to CRF database if available)	Source Name	no	1849+670
delay_rate_application_method	name of delay rate algorithm (currently only single-side-band modulation is implemented)	Delay Rate	no	single-side-band-modulation
f0	Sky frequency (MHz), defined at the channel center	Radio Frequency	yes	8212.99
fluxdensity_targetsource	Flux density of source (Jy)	Source Flux	yes	1
fluxdensity_system	SEFD (Jy)	System Flux	yes	3000
effective_area_telescope	effective telescope area (m^2)	Telescope	yes	50
bandpass_filter_name	name of bandpass filter, possible values: none, default	Magnitude Filter	yes	default
bandpass_fa_cutoff_perc	required if default bandpass filter is specified	Magnitude Filter	yes	0.01
bandpass_fb_cutoff_perc	required if default bandpass filter is specified	Magnitude Filter	yes	0.99
bandpass_number_of_filter_coefficients	required if default bandpass filter is specified	Magnitude Filter	yes	400
fractional_delay_filter_ntaps	length of fractional delay filer	Delay	yes	101
fractional_delay_filter_stopBandAtt	stop band attenuation of fractional delay filter	Delay	yes	140
qfact	quantization factor	Quantization	yes	0.8
delay_source	delay for source signal component (ns)	Delay	yes	0
delay_system	delay for system signal component (ns)	Delay	yes	0
delay_pcal	delay for phase cal signal component (ns)	Delay	yes	0
delay_super	delay for superimposed signal (ns)	Delay	yes	0
phaseoff_source	phase offset for source signal component (rad)	Phase Offset	yes	0
phaseoff_system	phase offset for system signal component (rad)	Phase Offset	yes	0
phaseoff_pcal	phase offset for phase cal signal component (rad)	Phase Offset	yes	0
phaseoff_super	phase offset for superimposed signal (rad)	Phase Offset	yes	0
phase_cal_tone_power_perc	relative power of phase calibration signal (write 0.01 for 1%)	PCAL	yes	0
phase_cal_repetition_rate	frequency spacing in the frequency domain in MHz	PCAL	yes	0
phase_cal_frequency_offset	Frequency offset of phase cal tones in spectrum in Hz	PCAL	yes	0
phase_cal_phase_offset	Constant phase offset for phase calibration signal in (deg)	PCAL	yes	0
phase_cal_tone_phase_offset_file	Apply a phase offset for each tone, handed over via text file	PCAL	yes	
arb_mag_file	Filename for values for arbitrary magnitude filter (first column: frequency GHz, second column: relativ magnitude)	Magnitude Filter	yes	
arb_mag_interpolation_res	Interpolation resolution in Hz	Magnitude Filter	yes	1e6
arb_mag_filter_order	Filter order/length	Magnitude Filter	yes	300
arb_mag_filter_design	Name of filter design	Magnitude Filter	yes	FIR-modeling-with-frequency-sampling-method
arb_mag_filter_signal_type	Name of signal component (the filter will be applied on the component specified here)	Magnitude Filter	yes	source
frame_length_byte	frame length for VDIF file	VDIF	no	8032
header_length_byte	length of header of VDIF file	VDIF	no	32
vdif_version_number	VDIF version number	VDIF	no	1
recorder_transport_type_name	name of recoder (only for VEX file required)	VEX	no	Flexbuff
mode_observation	name of observation mode (only for VEX file required)	VEX	no	sim-0001
site_type	(required for VEX file only)	VEX	no	site_type
site_position_ref	(required for VEX file only)	VEX	no	sked_position.cat
occupation_code	(required for VEX file only)	VEX	no	0
source_type	(required for VEX file only)	VEX	no	star
ref_coord_frame	(required for VEX file only)	VEX	no	J2000
polarization	(required for VEX file only)	VEX	no	R
IF_sideband	(required for VEX file only)	VEX	no	U
obs_sideband_vex	(required for VEX file only)	VEX	no	U