

Stream100GbE, Multi-channel 100GbE UDP Recorder / Playback System

Key Features and Specifications

- 4Ch 100GbE UDP Record/Playback
- 8Ch 100GbE UDP Record/Playback
- Interfaces with Mercury® RFSoc modules/subsystems
 - ◆ 8Ch 14bit 5GS/s ADC/DDC
 - ◆ 8Ch 14bit 5GS/s DAC/DUC
- 1Ch x 1,600MHz BW Recording/Playback
- 2Ch x 800MHz BW Recording/Playback
- 4Ch x 400MHz BW Recording/Playback
- 8Ch x 200MHz BW Recording/Playback
- Windows 11 x64 OS

Applications

- Wide-band Radar
- Wide-band Satellite Communication
- Spectrum Monitoring

Introduction

Stream100GbE is a turn-key wide-band UDP Recorder and Playback System. It can interface with Mercury®'s RFSoc modules and subsystems, for example Mercury model 5953, 6353, 5950, 6350, and record/playback RFSoc signals through the 100GbE UDP interface. (Fig 2).



Mercury Model RFSoc series can work in Triggered Mode or Continuous Mode depending on different applications. After captured in RFSoc, the data are sent over 100GbE and being recorded as binary raw data in the storage. For each new recording job, a new folder with time-stamp is created.

After recording, Stream100G can playback the signal from storage; When playback, user may specify a file-offset so Stream100G will skip this amount of data before playback.

Alternatively, user may design his own waveform and save the data into storage, and Stream100G will read and send for playback. Stream100G can also playback a segment of data in repeat mode.

For quick-test purpose, Stream100G has a DAC SigGen capability. User may simply specify a single tone frequency and its carrier frequency, the Stream100G can generate the test signal and send out for testing.

Stream100GbE is configured through an .ini text file for different parameters and settings. During Recording, the signals may be sent to SignalViewer for quick view.

The Stream100GbE is fully tested for UWB Radar, or wide-band satellite communication etc. applications.

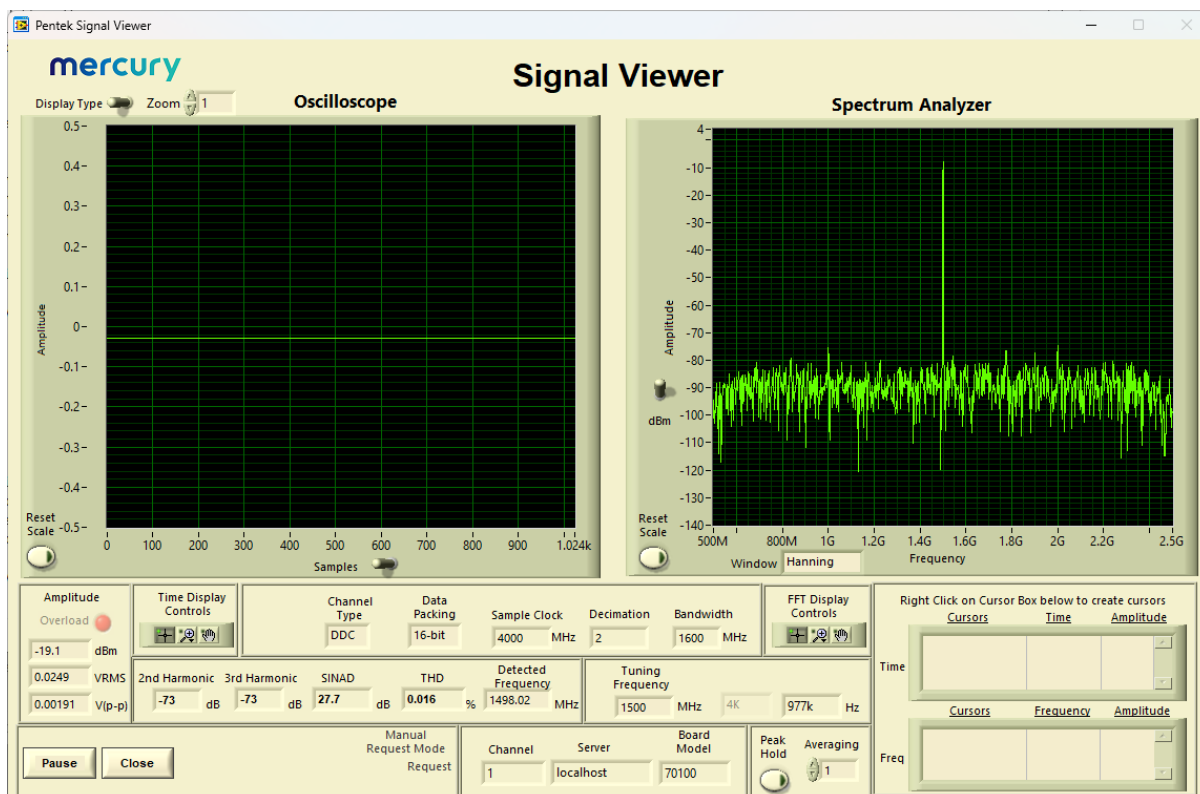


Fig 1, Stream100G , DDC Mode, FS=4,000MHz, Decim=2; Instant Bandwidth = 1.6GHz

Mercury RFSoc Model 6353, 5953 Series Max ADC Sampling Rate and DDC Decimation Support

SN	Max ADC sampling rate	DDC Decimation Supported:
1	5GS/s	x4,x8,x64,x128
2	4GS/s	x2,x4,x8, x32,x64,x128

Mercury RFSoc Model 6353, 5953 Series Max DAC Sampling Rate and DUC Interpolation Support

SN	Max DAC sampling rate	DUC Interpolation Supported:
1	5GS/s	x4,x8
2	4GS/s	x2,x4,x8,

Stream100G Record/Playback Data Rate Table

S/N	ADC /DAC Sampling Rate	Total Channel Count	ADC Resolution	DDC Decimation /DUC Interpolation	I/Q Sampling Rate Per Channel	Max Bandwidth Per Channel	Max Data Rate per channel	Aggregated Date Rate
1	5GS/s	2	8bit	Not In use	5GS/s Real	2.5GHz	5GB/s	10GB/s
2	5GS/s	2	14bit	x4	1.25GS/s	1GHz	5GB/s	10GB/s
3	4GS/s	1	14bit	x2	2GS/s	1.6GHz	8GB/s	8GB/s
4	4GS/s	2	14bit	x4	1GS/s	800MHz	4GB/s	8GB/s
5	4GS/s	4	14bit	x8	500MS/s	400MHz	2GB/s	8GB/s
6	2GS/s	8	14bit	x8	250MS/s	200MHz	1GB/s	8GB/s

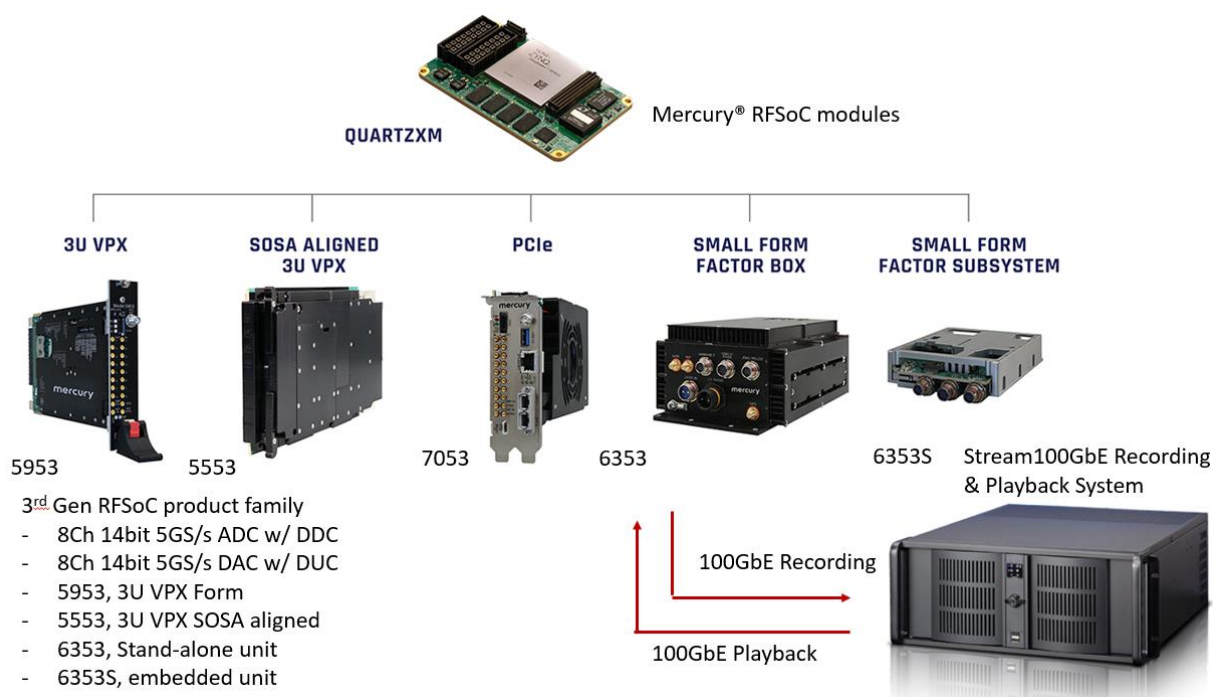


Fig 2: Stream100G interfacing with variant Mercury RFSoc modules

Environmental Specifications (Designed to Meet):

Temperature(Op): 0degC to +55degC

(with option 702)

Temperature(Non-Op): -40degC to 85degC

Humidity(Op): 0 to 95%, non-condensing. (with option 720)

Shock(Op): 15g max(11ms, half sine wave).

Vibration(Op): 10 to 20 Hz: 0.02 inch peak,
20 to 500 Hz: 1.4 g peak acceleration.

Physical Specifications:

Dimension: 427.5(W) x 520(D) x 177(H) mm

Weight: approximate 17.5kg.

Power Input: 100 to 240 VAC, 50 to 60 Hz, 650 W max.

Opt 028, 28V DC Input, 800Watt.

For product, pricing or demo request, please contact:

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Order Options**Stream6400**

- Option 104, 4Ch Recording/Playback
- Option 108, 8Ch Recording /Playback
- Option 702, Ext Temp
- Option 720, Conformal Coating
- Option 028, 28V DC Input.
- Option 015, 15TB SSD
- Option 030, 30TB SSD
- Option 060, 60TB SSD
- Option 120, 120TB SSD