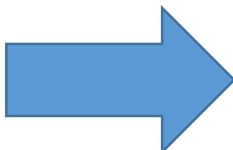


Xboxes Update

27/04/2021

Summary



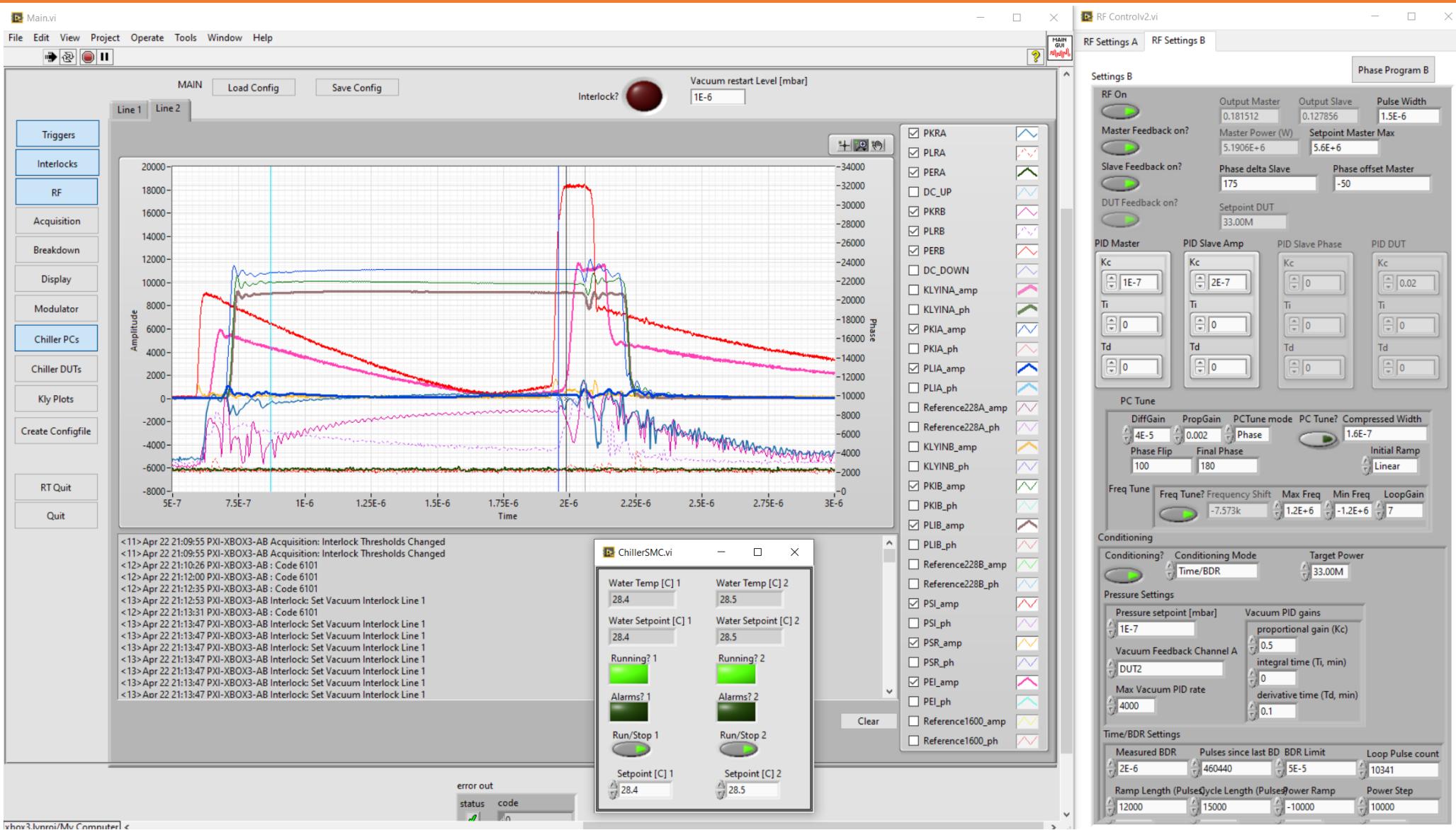
- XBOX1:
- XBOX2:
- XBOX3AB: T42 Backwards Structures
 - Line 1 not running (to avoid interfering Line 2)
 - Line 2 running flat:
 - Running flat at 28.5 MW, 200ns, 150Hz per line until Saturday morning
 - Since then, running flat at 28.5 MW, 100ns, 200-150Hz per line

- XBOX1:
- XBOX2:
- XBOX3AB: T42 Backwards Structures
 - Line 1 not running (to avoid interfering Line 2)
 - Line 2 running flat at 28.5 MW:
 - Running flat at 28.5 MW, 100ns, 200-150Hz per line until Friday.
 - ML test done on Friday.
 - Since then, running flat at 32 MW, 100ns, 50-100Hz per line

XBOX3 AB – Status

Last Operation Parameters:

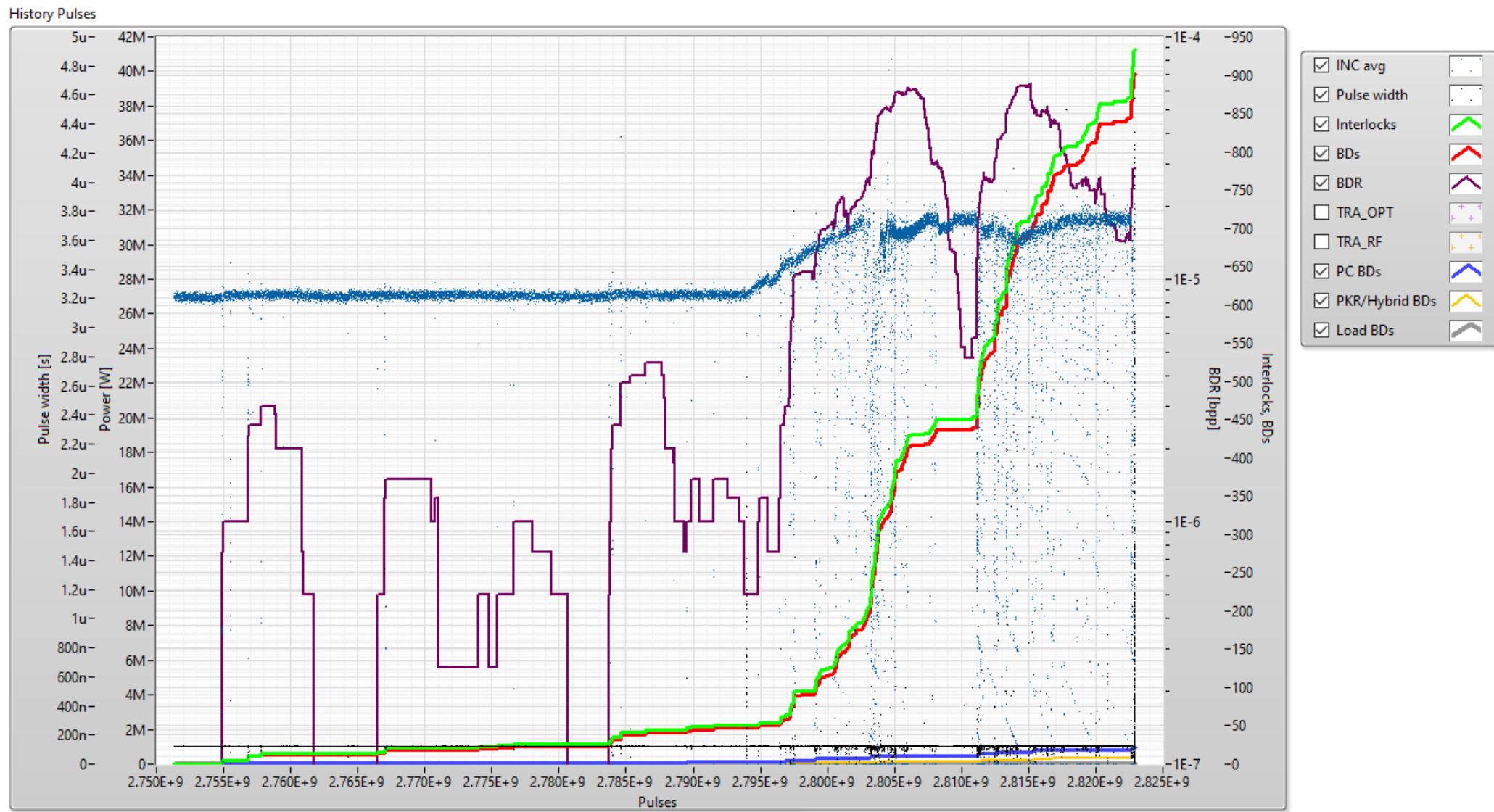
- 1.5us klystron pulse
 - 100ns comp. pulse
 - 100Hz rep rate per line
 - **Current Power: 32 MW (peak)**



XBOX3 AB – Line 2

Last Operation Parameters:

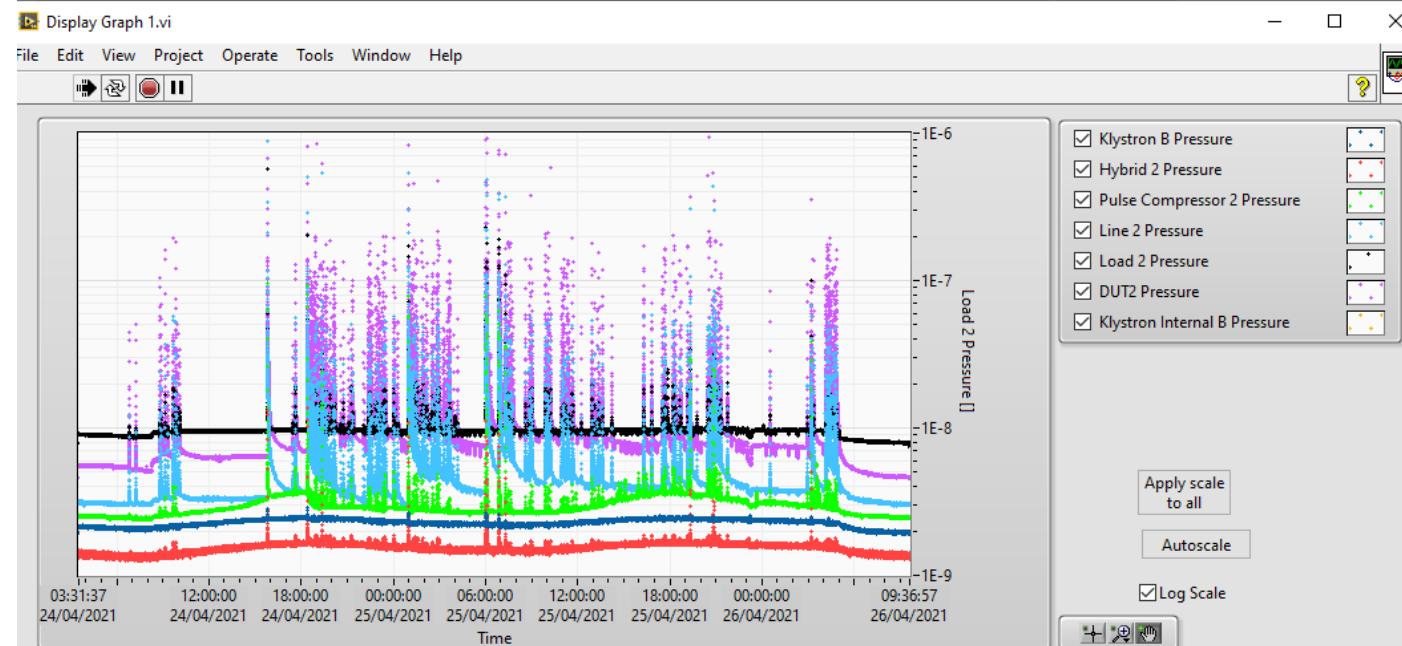
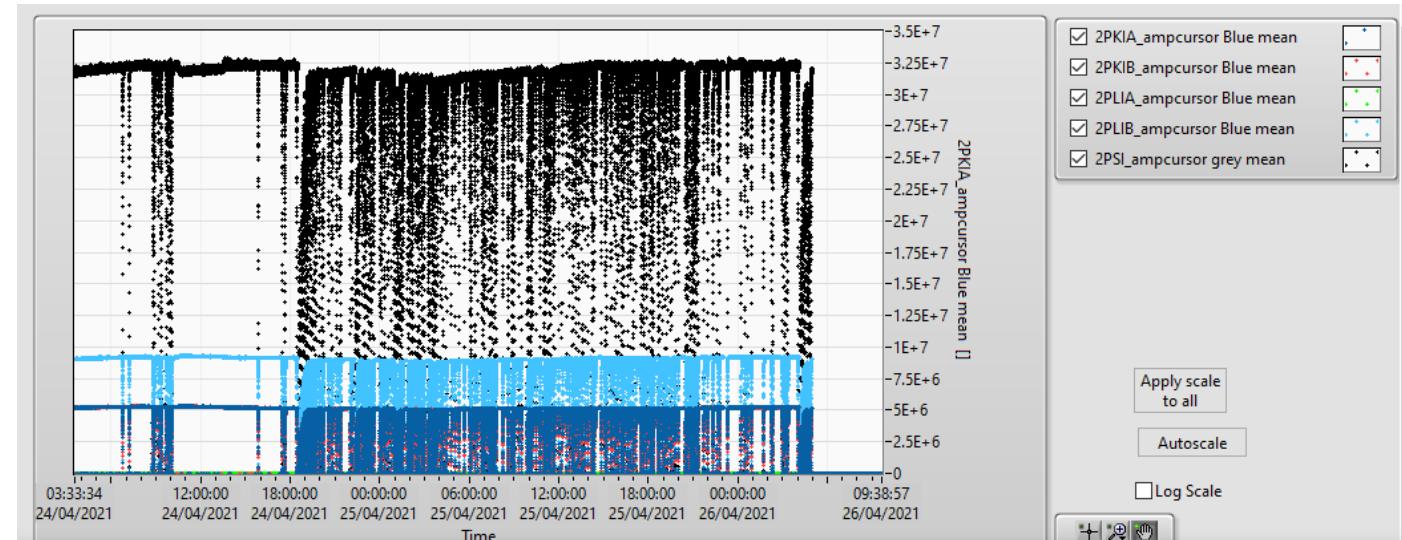
- 1.5us klystron pulse
- 100ns comp. pulse
- 100Hz rep rate per line
- **Current Power: 32 MW (peak)**



XBOX3 AB – Line 2

Last Operation Parameters:

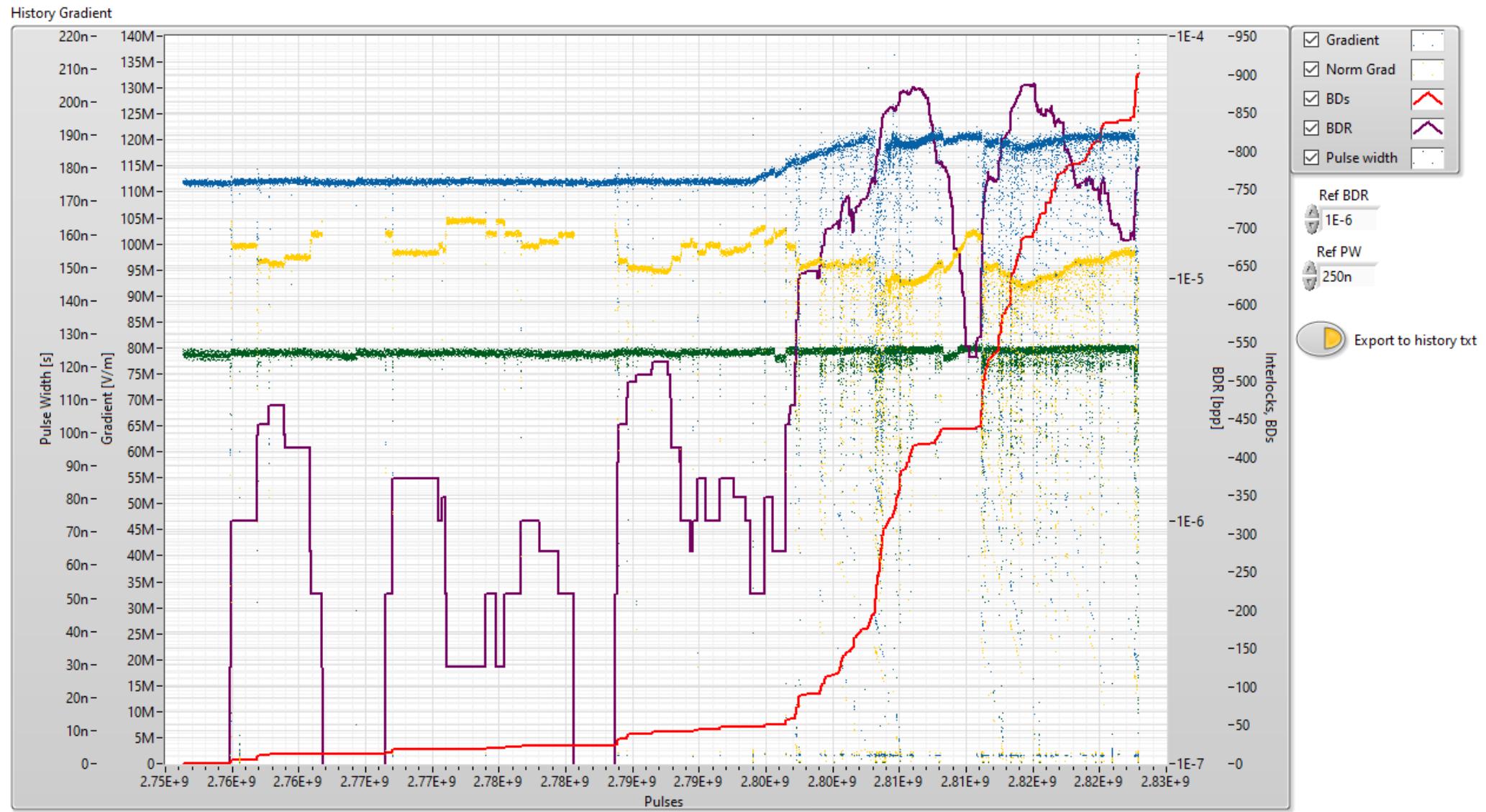
- 1.5us klystron pulse
- 100ns comp. pulse
- 100Hz rep rate per line
- **Current Power: 32 MW (peak)**



XBOX3 AB – Line 2

Last Operation Parameters:

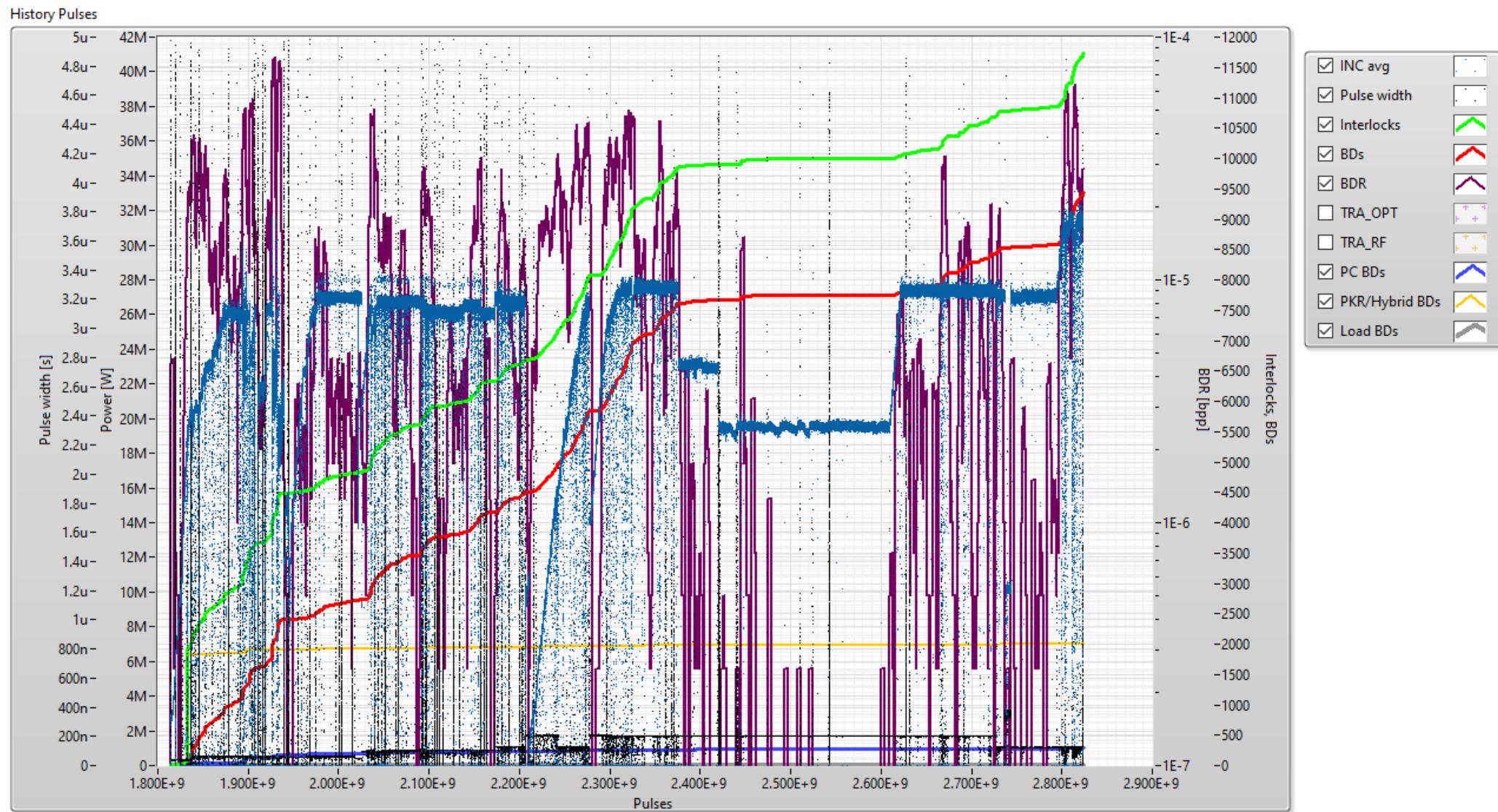
- 1.5us klystron pulse
- 100ns comp. pulse
- 100Hz rep rate per line
- **Current Power: 32 MW (peak)**



XBOX3 AB – Line 2

Last Operation Parameters:

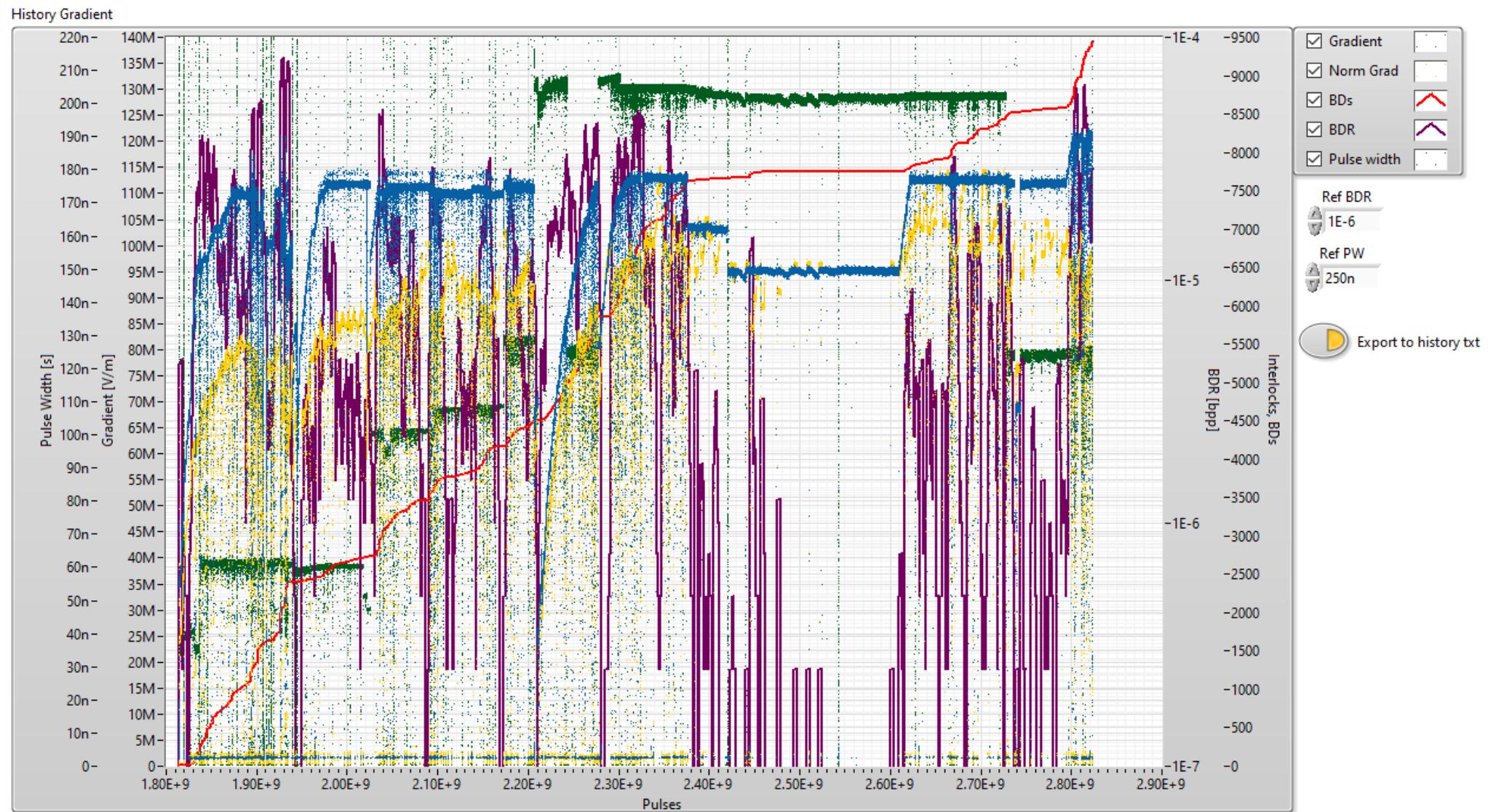
- 1.5us klystron pulse
- 100ns comp. pulse
- 100Hz rep rate per line
- **Current Power: 32 MW (peak)**



XBOX3 AB – Line 2

Last Operation Parameters:

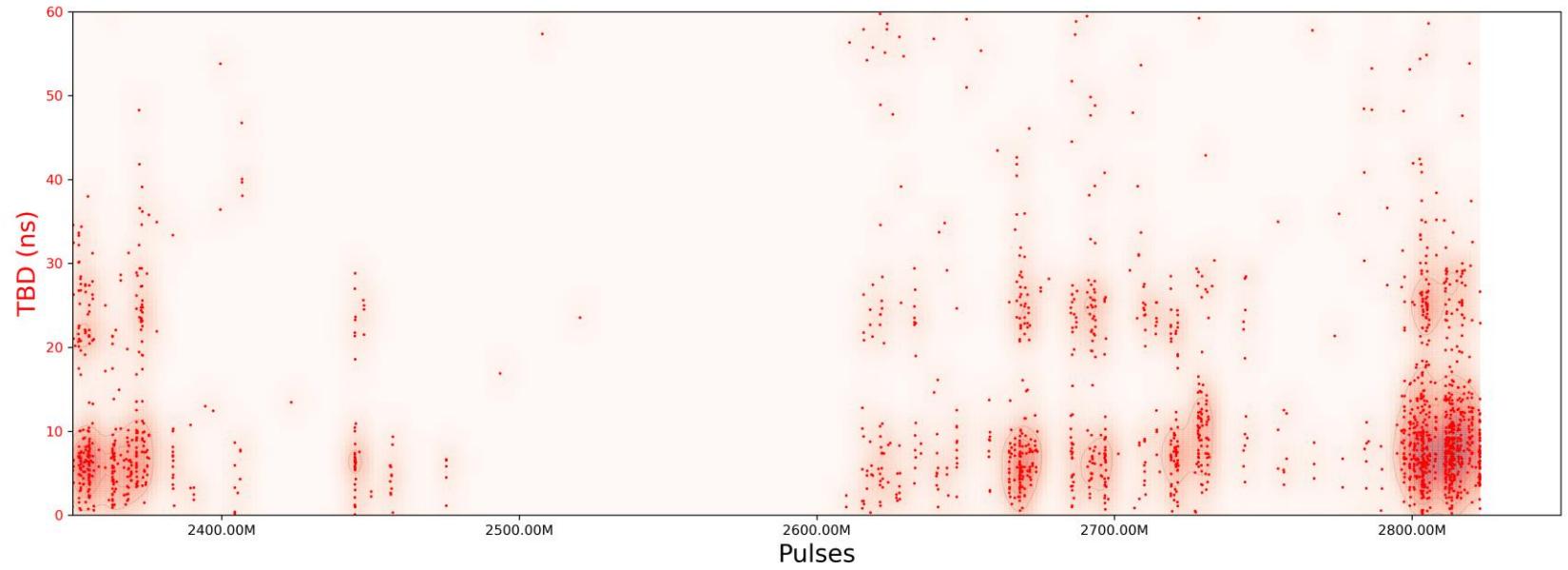
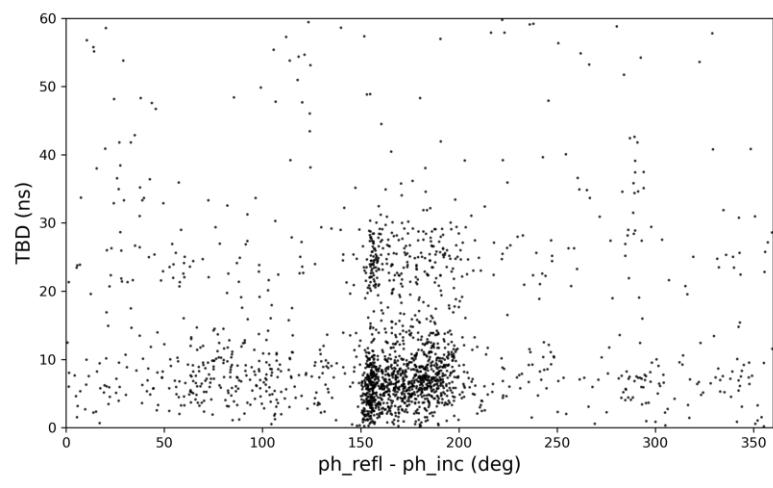
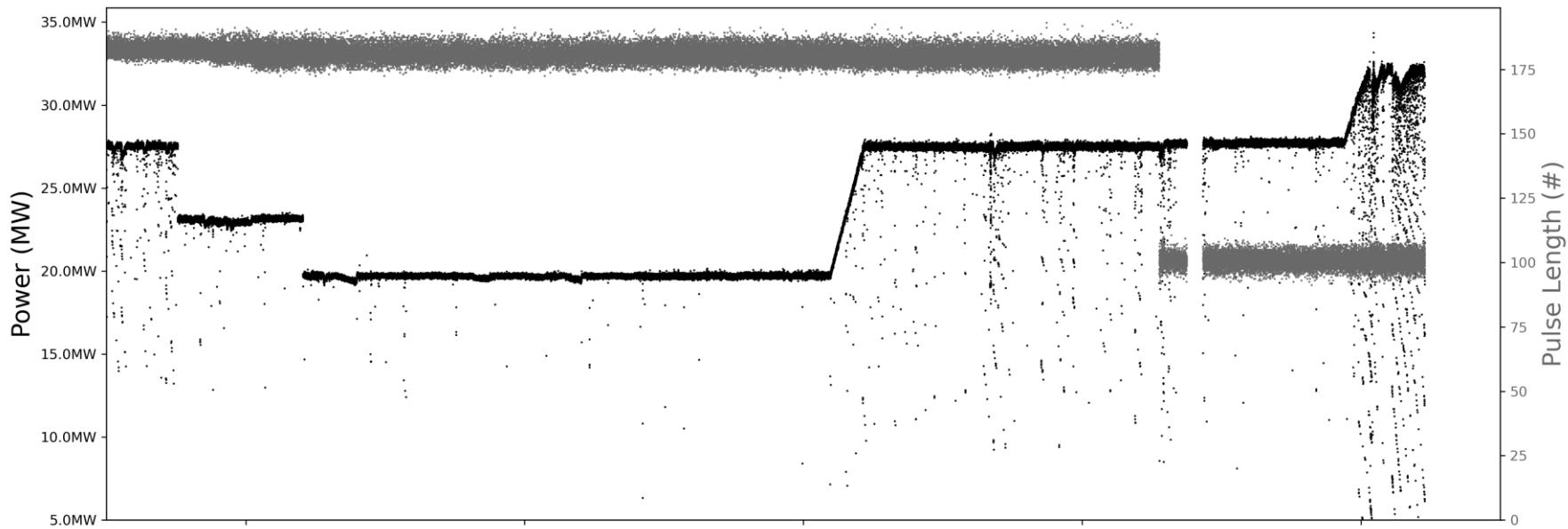
- 1.5us klystron pulse
- 100ns comp. pulse
- 100Hz rep rate per line
- **Current Power: 32 MW (peak)**



XBOX3 AB – Line 2

Last Operation Parameters:

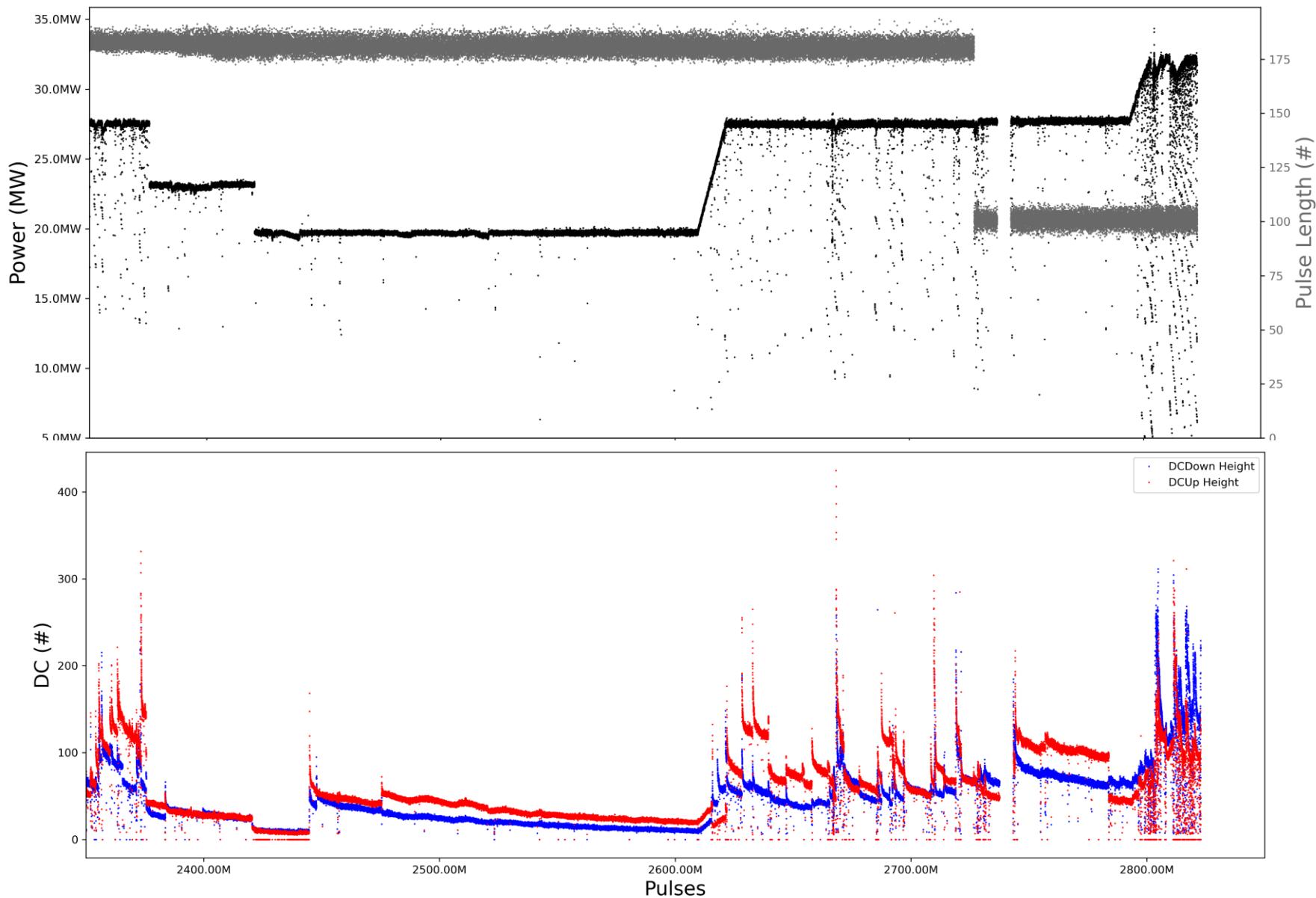
- 1.5us klystron pulse
- 100ns comp. pulse
- 100Hz rep rate per line
- **Current Power: 32 MW (peak)**



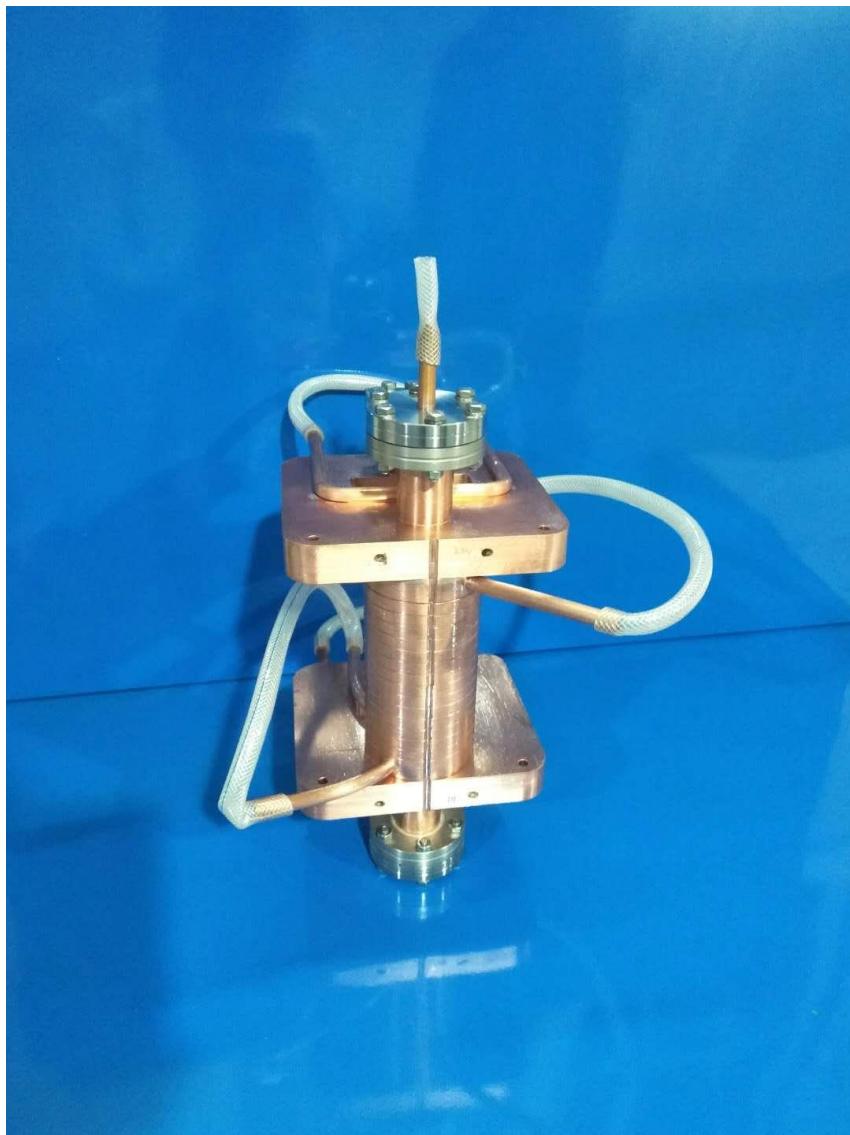
XBOX3 AB – Line 2

Last Operation Parameters:

- 1.5us klystron pulse
- 100ns comp. pulse
- 100Hz rep rate per line
- **Current Power: 32 MW (peak)**



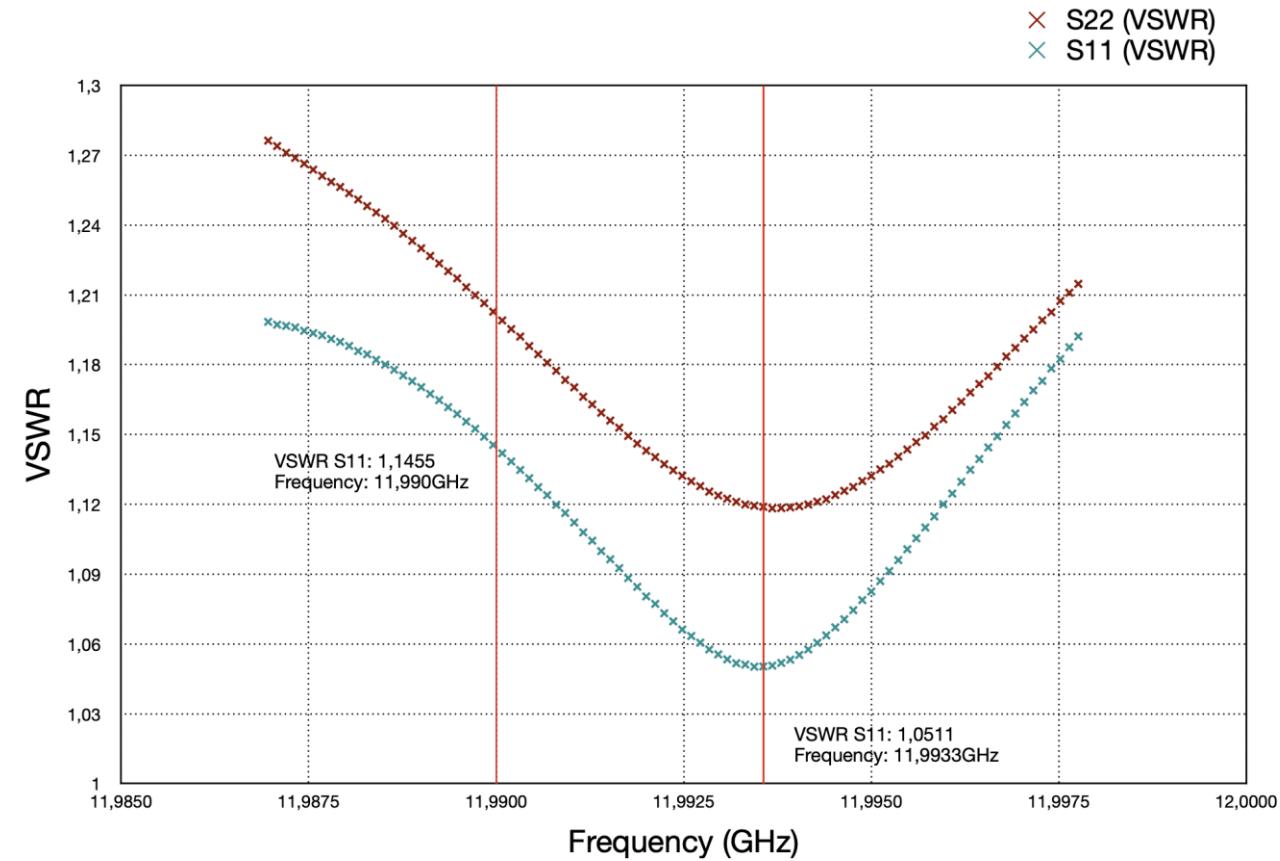
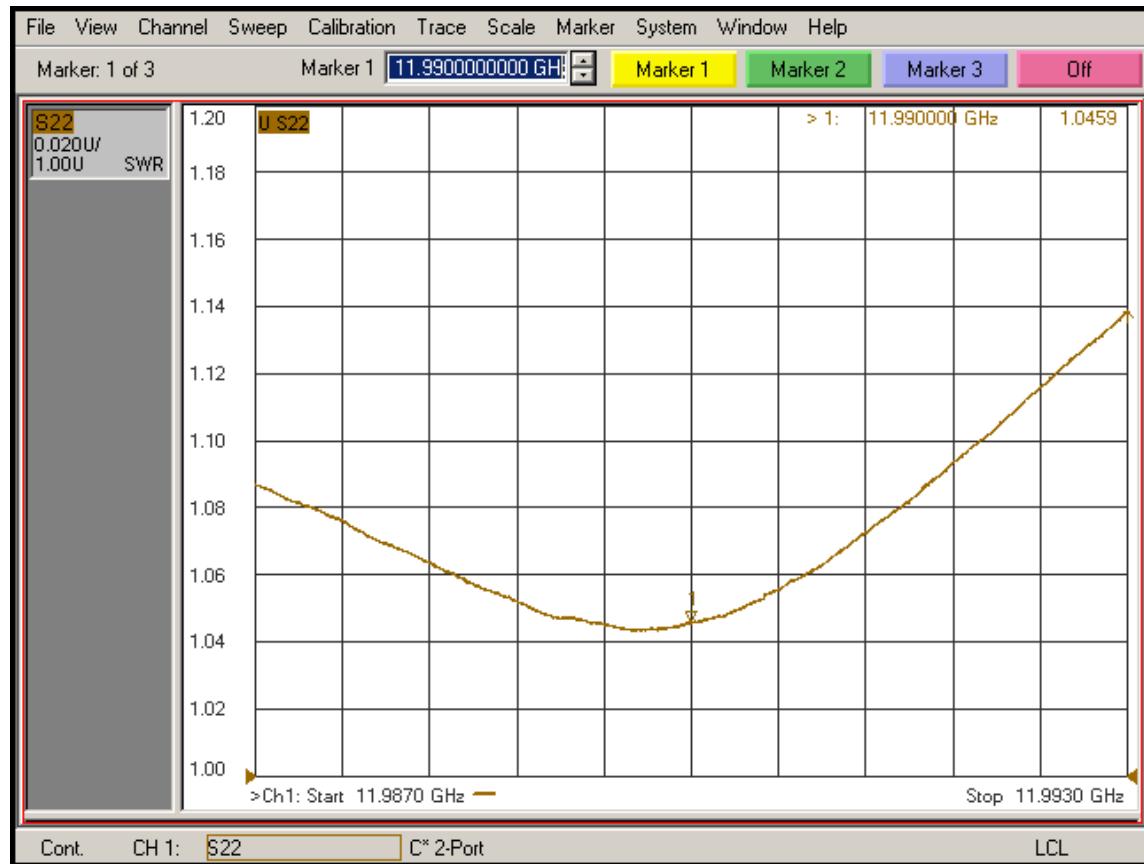
SINAP Structure



Operating frequency	11.994
	GHz@26deg
Regular cell	
Phase advance per cell	120°
Length of cell	8.3317 mm
Structure length	230 mm
Quality factor Q	6173
Transverse shunt impedance	49.9MΩ/m
Group velocity: Vg/c	2.69%
Filling time	21 ns
Attenuation factor t	0.751
Coupler	

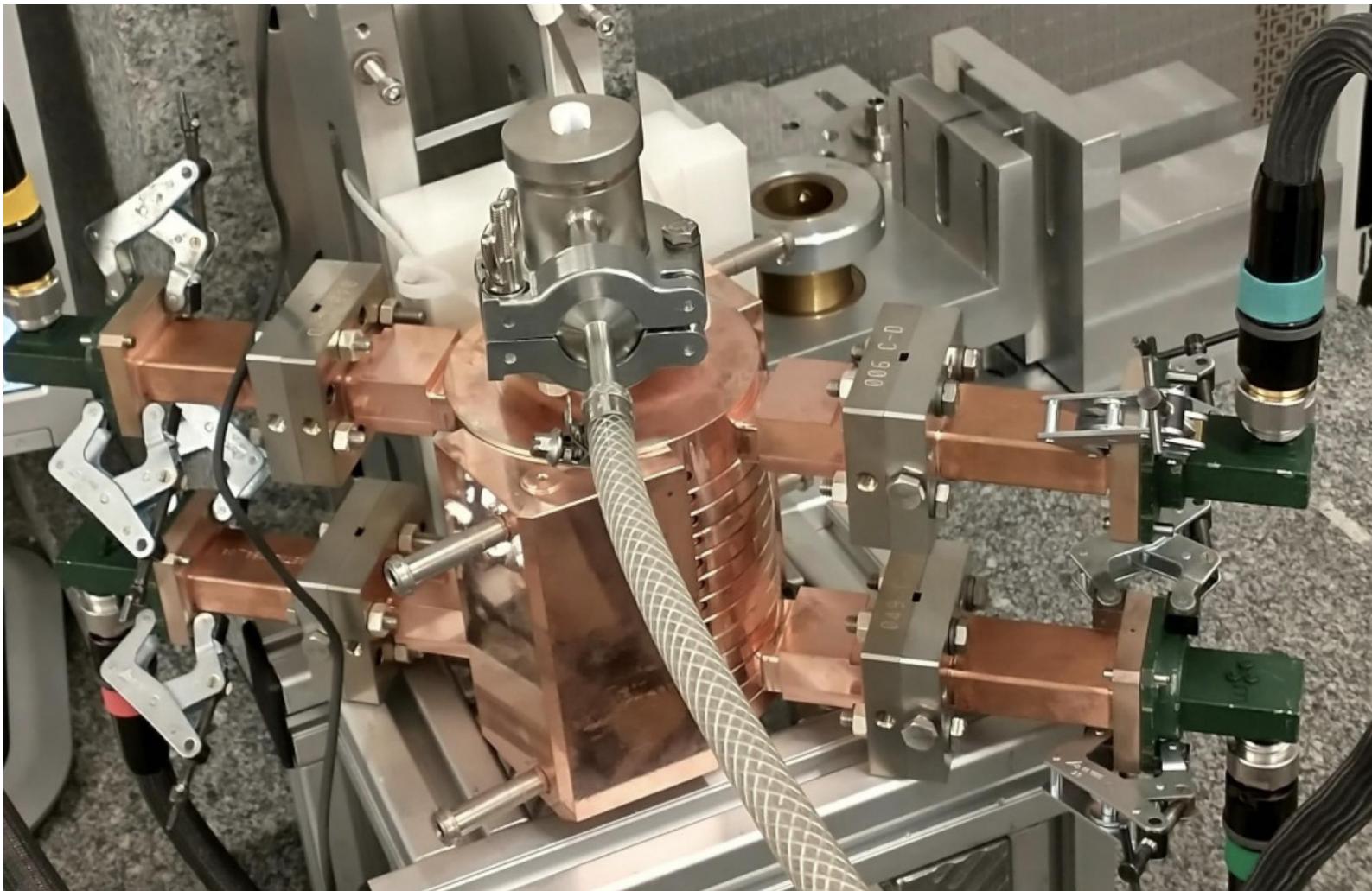
STATUS: Waiting for the adaptors to enable the cooling pipes

SINAP Structure: VNA Measurements



VNA Measurements done at atmospheric pressure and at room temperature.

Lancaster CRAB Structure



Operating frequency	11.9942GHz @ 34.2deg
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STATUS: Waiting for the spacers in order to get 180° phase difference at the input/output of the structure.

Structures Operation

SINAP Structure

Step	Pulse length	Target Power	Comment
1	50 ns	~12 MW	No PC
2	50 ns		Compressed Pulse
3	100 ns		Compressed Pulse

Lancaster CRAB Structure

Step	Pulse length	Target Power	Comment
1	50 ns	~12 MW	No PC
2	50 ns		Compressed Pulse
3	100 ns		Compressed Pulse

Is the BD detection strategy the same??

SINAP Structure: VNA Measurements

