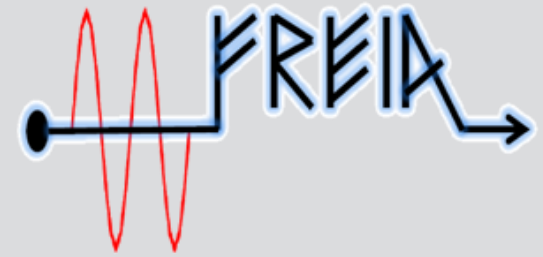




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# ESS weekly meeting (2024 W21)

FREIA team



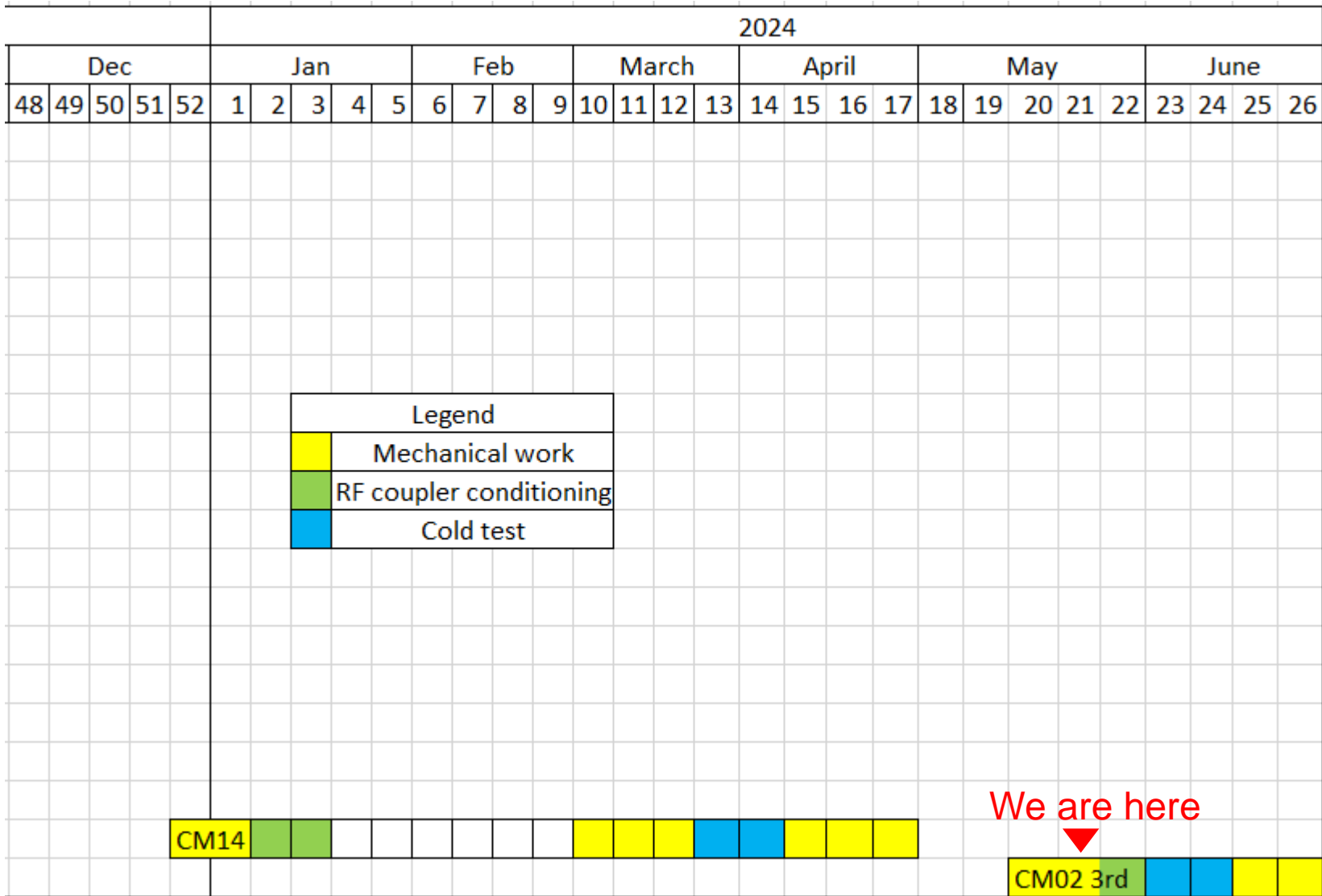
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# Global planning





# Global planning





# Local planning



week		W20											
date		MON		TUE		WED		THU		FRI		SAT	SUN
		13-May		14-May		15-May		16-May		17-May		18-May	19-May
		m	a	m	a	m	a	m	a	m	a		
CM	CM02					Arrival to FREIA		Thermalization		reception test			

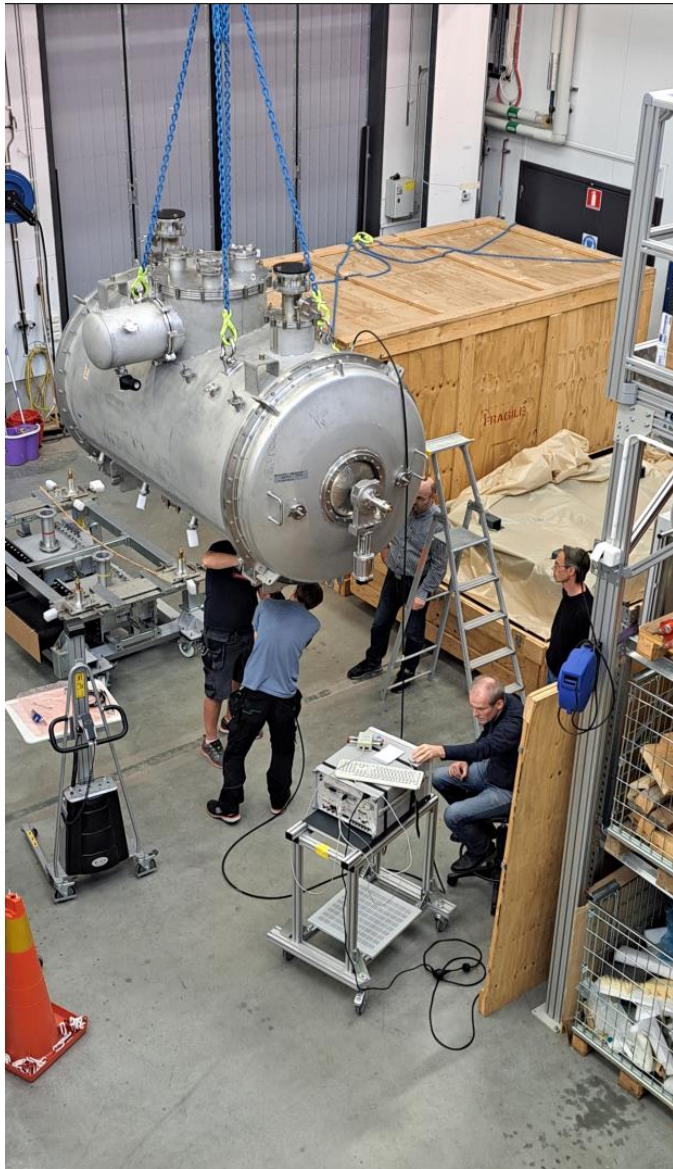
  

week		W21 <span style="color: red;">We are here</span>											
date		MON		TUE		WED		THU		FRI		SAT	SUN
		20-May		21-May		22-May		23-May		24-May		25-May	26-May
		m	a	m	a	m	a	m	a	m	a		
CM	CM02	Doornobs connection, move to the bunker		Cryo connection, leak check		Vacuum connection		Vacuum pumping		Start RF stations, RF cable calibration			

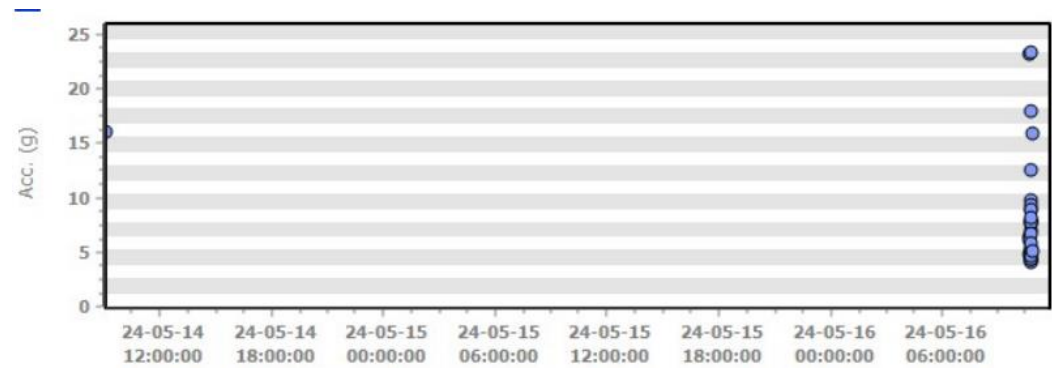
  

week		W22											
date		MON		TUE		WED		THU		FRI		SAT	SUN
		27-May		28-May		29-May		30-May		31-May		1-Jun	2-Jun
		m	a	m	a	m	a	m	a	m	a		
CM	CM02	Coupler conditioning <span style="color: red;">???</span>											

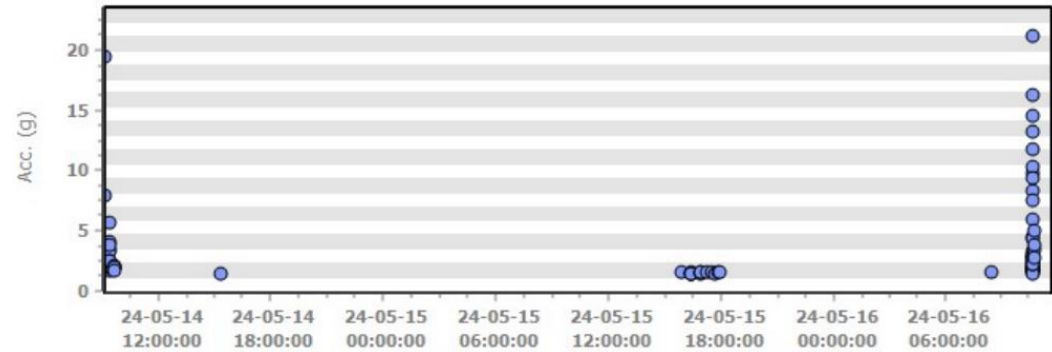
# CM02 3rd arrived to FREIA



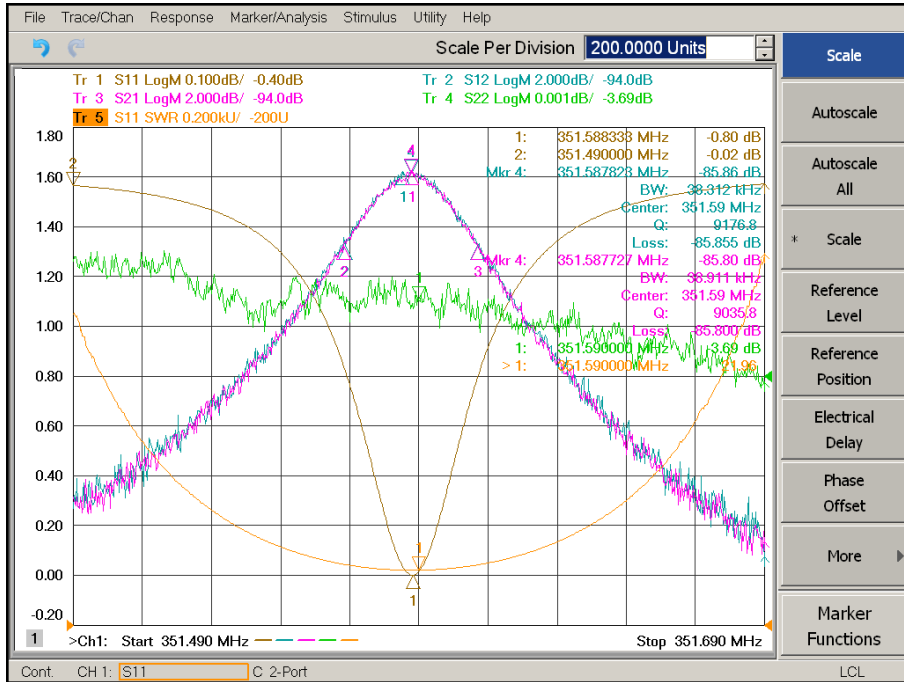
## CavIN 4g limit



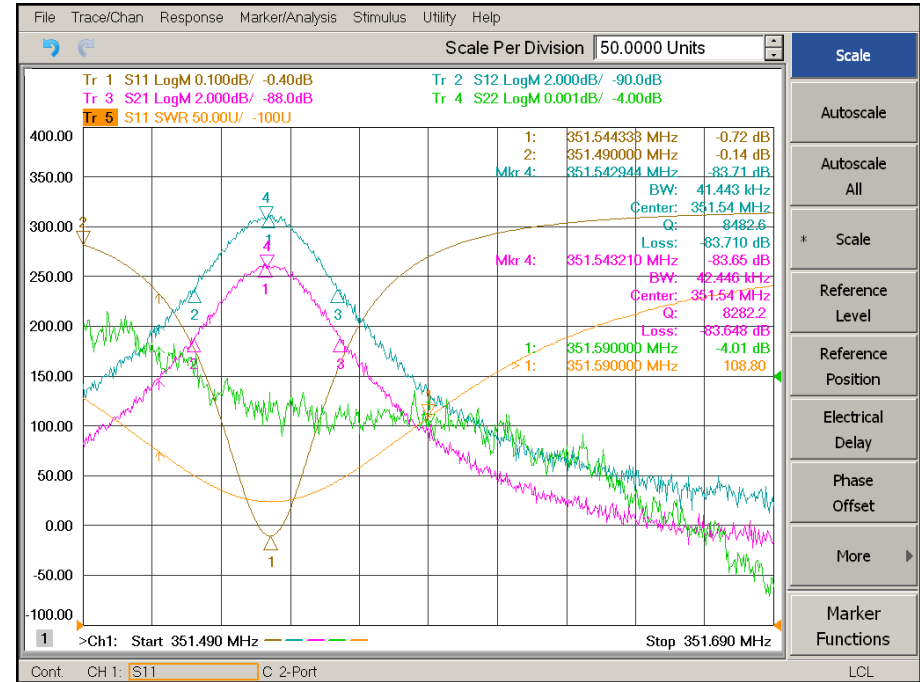
## CavOUT 1.5g limit



# CM02 3<sup>rd</sup>: VNA reception



## CavIN



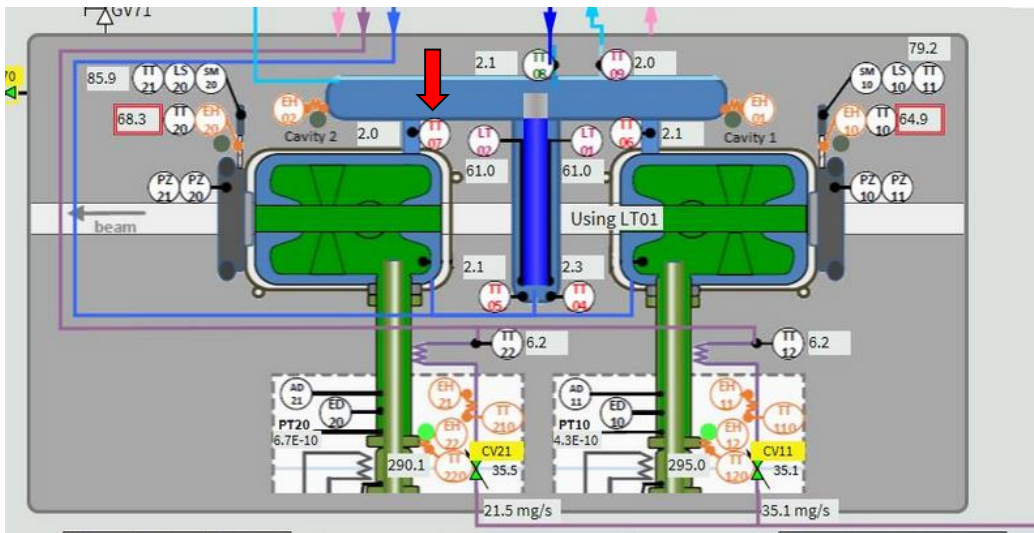
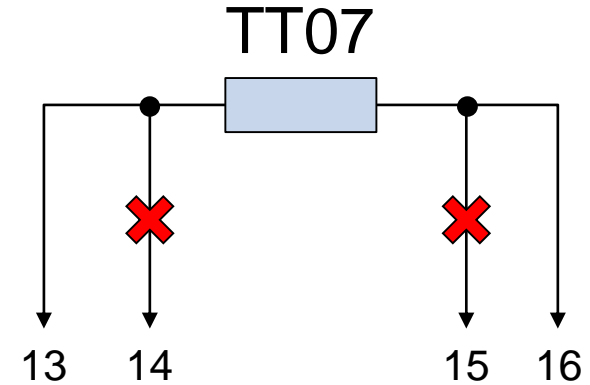
## CavOUT

	CM02-2 out	CM02-03 rec
S11	351.592MHz -0.82dB	351.588MHz -0.80dB

	CM02-2 out	CM02-03 rec
S11	351.549MHz -0.72dB	351.544MHz -0.72dB

Problem with continuity of T077 sensor on LC01.

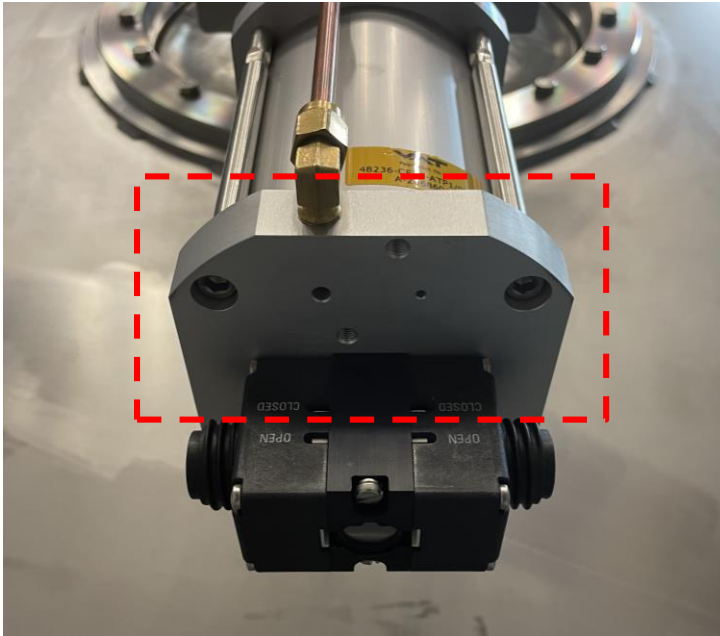
Same behavior if we measure resistance directly on LEMO plug on top of CM.



Pins	R [Ohm]
13 - 14	OL
13 - 15	OL
14 - 16	OL
15 - 16	OL

13 - 16	260.3
---------	-------

Missing metal plate on CavIN gate valve.



CavOUT side  
is OK!

Connectors for TT120/200 and EH12/22:



We didn't have a appropriate plugs

Should we "cut" them or ESS will  
send us a dedicated connectors?



# Warm conditioning strategy



The screenshot displays the 'Current parameters' section of the FREIA control interface. The interface is divided into several tabs: Operator panel, Instrument State, Power source configuration, Initial State, Power State, Checking state, and Watchdog setting. The 'Current parameters' section includes:

- Vacuum Upper Limit (mbar):** A slider set to  $5E-6$  on a scale from  $1E-8$  to  $1E-5$ .
- Vacuum Lower Limit (mbar):** A slider set to  $5E-7$  on a scale from  $1E-8$  to  $1E-6$ .
- RF Upper Limit (dBm):** A slider set to 81 on a scale from -60 to 90.
- RF Lower Limit (dBm):** A slider set to 60 on a scale from -60 to 90.
- RF Increment (dB):** A text input field set to 0,2.
- RF TB Increment (dB):** A text input field set to 3.
- Soak Time (Sec):** A text input field set to 60.
- Step interval (Sec):** A text input field set to 2.
- Pulse Width (us):** A text input field set to 20.
- Pulse Delay (us):** A text input field set to 0.

Additional settings on the right include:

- Coupler under conditioning:** A dropdown menu set to 'Coupler 1 & 2'.
- Parameter setting mode:** A dropdown menu set to 'Manually'.
- Reset current power level?

At the bottom, there are two lists of pulse parameters:

- RF Pulse Width List:** A row of input fields with values: 50, 50, 100, 250, 500, 1000, 2000, 3500, 0, 0, 0, 0, 0, followed by a 'us' unit button.
- RF Pulse Delay List:** A row of input fields with values: 1975, 1975, 1950, 1875, 1750, 1500, 1000, 400, 0, 0, 0, 0, 0, followed by a 'us' unit button.

- Start RF power level: 60dBm  $\rightarrow$  50dBm (1kW  $\rightarrow$  100W)
- RF step increment 0.2dBm  $\rightarrow$  0.1 or 0.05dBm(if we have enough resolution)
- Vacuum low. Limit 5E-7mbar  $\rightarrow$  2E-7mbar (depend from beam vacuum).
- Limit upper RF power to 100kW