Marktconsultation Closed-cycle refrigerator: Questions and answers

Number	Question	About	Answer
1	Can you please define the temperature at which 30mW of cooling power is needed (e.g. 1K, 1.5K, 2K)? The cooling power of any cryostat at base temperature is by definition zero.	R008	The required cooling power is defined at 1 Kelvin. The base temperature is defined as 1 Kelvin or lower.
2	What is the desired cooling power at 100mK and/or 20mK after the fridge is upgraded to a dilution refrigerator?	R006/R008	The required cooling power for the upgraded system is 400 uW or more at 100 mK.
3	What is the total number of RF lines required?	R013	At least 10 RF lines are required, see requirement R002.
4	Will there be any additional in-line components such as attenuators, amplifiers, isolators, filters, etc.? Shall the vendor supply these or will the end user?	R014	All additional in-line components will be supplied by the end user and are not included in this tender.
5	Do the cables need to be phase matched to each other?	R015	We require phase matched assemblies.
6	Is SMA termination desired for connection to the DUT as well?	R016	This is not required to be included.

7	What is the vibration reference surface for "outside of the cryostat" (e.g. lab floor or support stand)?	R021	The vibration reference surface is the support stand.
8	How many optical fiber connections are required? What wavelengths will the fibers need to support? Shall the vendor install the fibers, or will the end user do so?	R022	At least 5 optical fiber feedthroughs are required, see requirement R002. We do not expect the vendor to install the fibers, as they will vary from application to application for us. We do expect the vendor to install all hardware, such that we are able to connect fibers from the feedthroughs on the vacuum housing to the sample space where the DUT is located.
9	The structure of certain cryostats does not allow for a line-of-sight port down the center axis. Will the user consider something off-center? Can you provide some context for this requirement?	R024	The free-space optical line-of-sight has to be centered with respect to the bore of the vector magnet. We expect the vector magnet to be centered, and therefore the line-of-sight path centered, as this gives us the most flexibility for the design of the optical free-space path. In short: The port has to be centered for allowing the optical design.