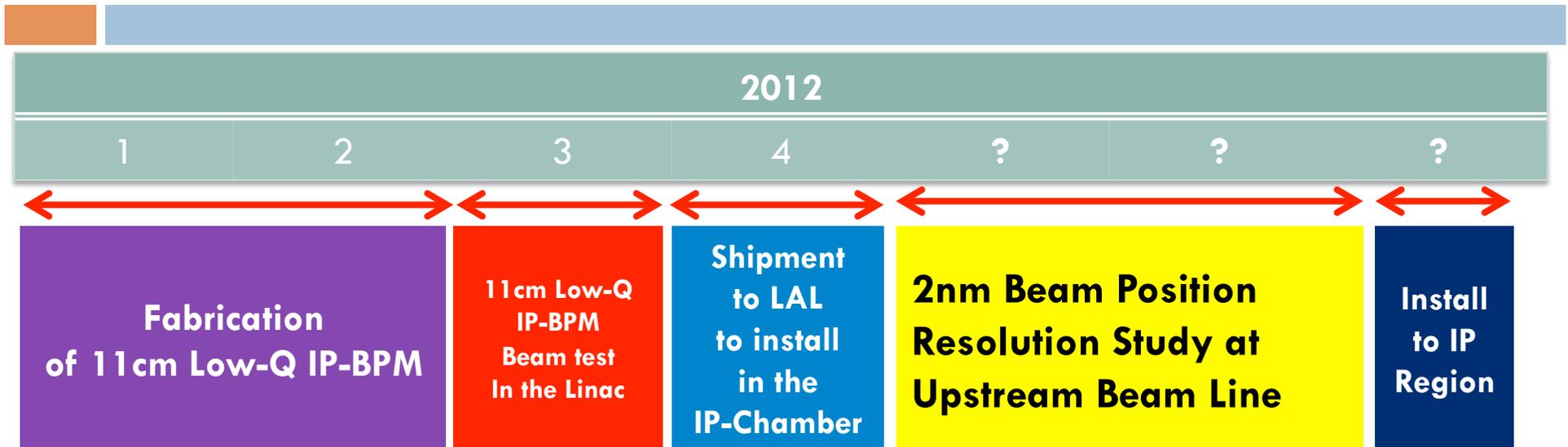


FUTURE PLAN OF IP-BPM

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Study Plan of 2012



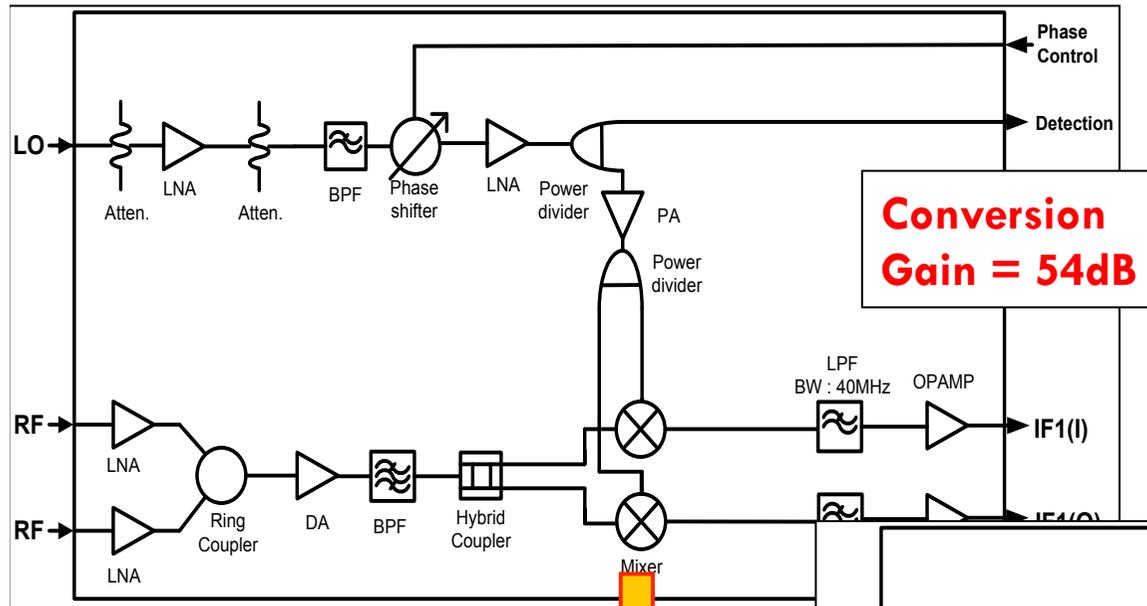
Main Test List for the Low-Q IP-BPM @ 2012

1. Y-port electronics test (Jan.) **(Complete!)**
2. Three IP-BPM beam test at end of linac with chamber (Mar.) **(Complete!)**
3. 2nm beam position resolution full study at upstream beam line with IP-chamber (which is undecided)

What we need for the second goal? (for Low-Q IP-BPM study)

- **All of Low-Q IP-BPM was fabricated.**
- **3 sets of new electronics will be modified and fabricated. (not decided)**
- **Both reference cavity will be fabricated. (~July)**
- **Low-Q IP-BPM resolution study with IP-Chamber will be performed at the up-stream beam line of ATF2.**
 - ▣ **ADC module type is still undecided. It depend on the data saving type of ADC module. (SIS 3301 or existing ADC module).**

Ver. 2 electronics design & modify

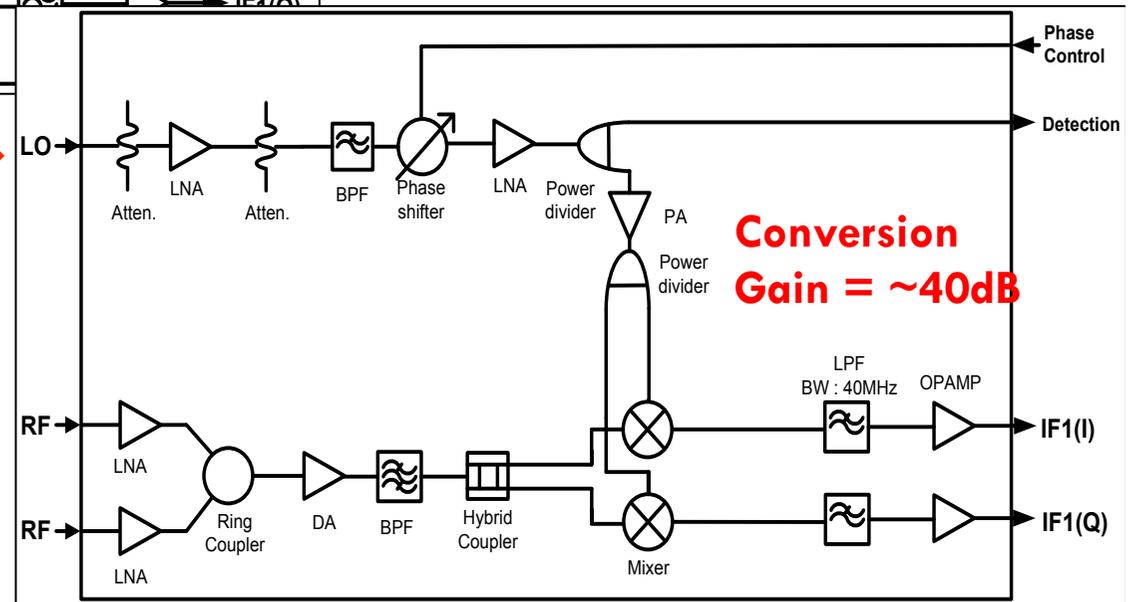


Upgrade points

1. Little bit lower conversion gain
2. Still high isolation in the mixer
3. Remotable phase shifter
4. Still short latency time
5. Output signal offset controller
6. Wide dynamic range $\sim 2\mu\text{m}$

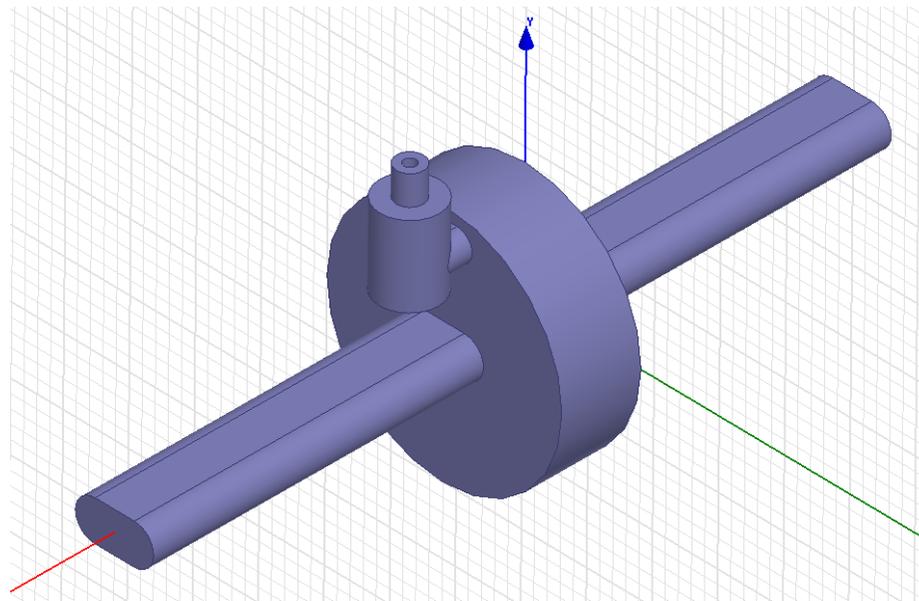
Detail properties

1. Expectation value of Latency time = below 25ns
2. Isolation @ mixer = -40dB (almost isolate)
3. Wide dynamic range



Reference cavity

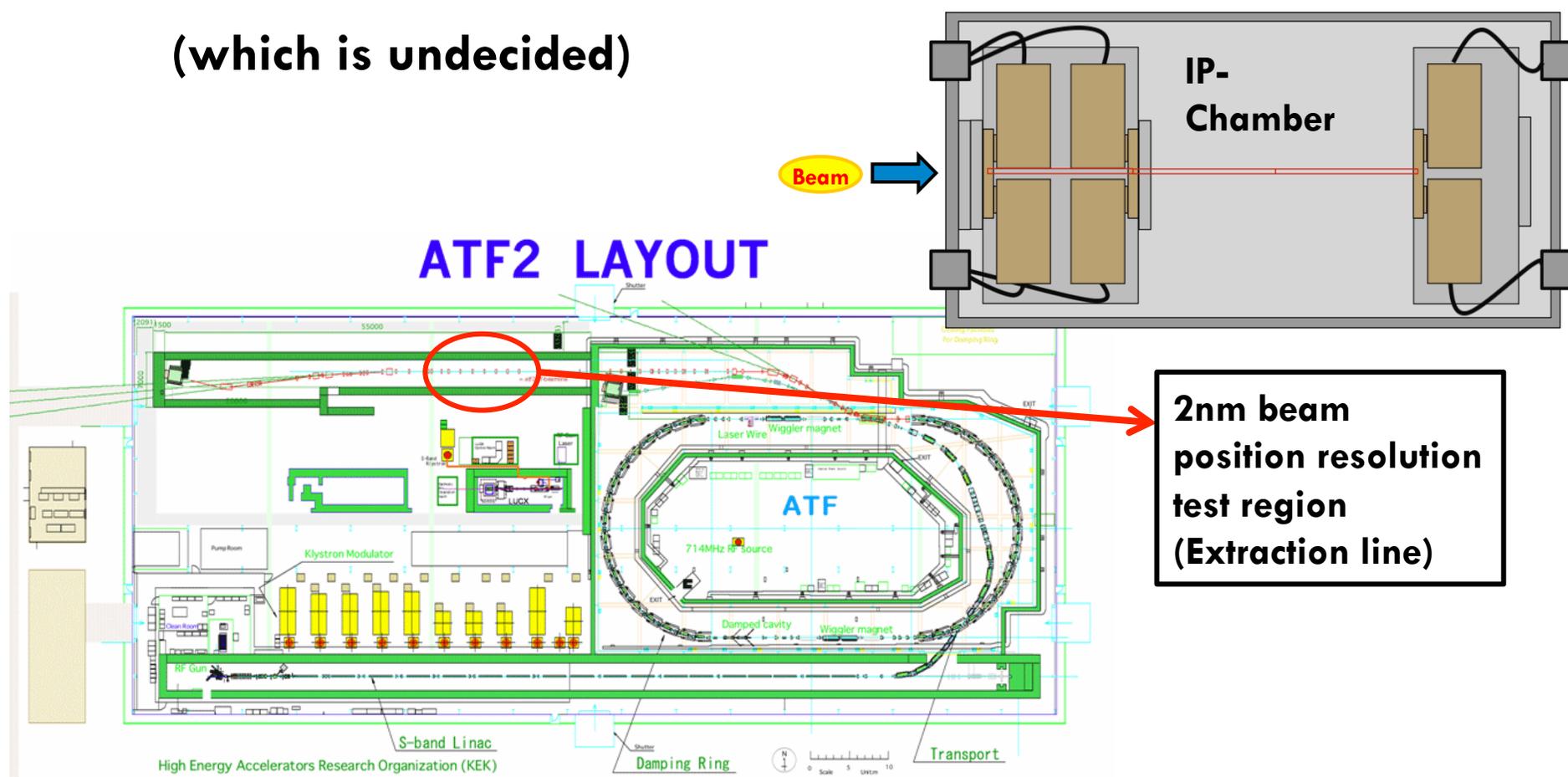
- **Reference cavity(~July) & upstream chamber design will finish end of August.**



X & Y REF cavity will design

2nm beam position resolution study

- **2nm beam position resolution study will perform at extraction beam line with IP-chamber (which is undecided)**



Summary



- **11cm Low-Q IP-BPM design study was done, well.**
- **11cm Low-Q IP-BPM performance test was performed at the end of linac during march.**
- **After now, the 11cm Low-Q IP-BPM will bring to LAL to align in the IP-Chamber.**
- **New electronics will be modified and fabricated.**
- **Both reference cavities will be fabricated until July.**
- **2nm resolution test will perform at the extraction beam line with IP-Chamber. (ADC module is undecided)**