

Minutes of Plan meet of 3rd Oct 2012 (follow-up of some pending topics from different areas) :

1. Documentation related :

1.1 Documentation : follow-up on level 2 (ITR) : conversion of older reports (SSK & BAK to work on one report each from their group) & general taking stock of the matter -- from 22 Aug & earlier (SSK/BAK/DO)

==> item not discussed due to shortage of time.

1.2 Documentation : follow-up on level 3 (NTR) : check if any material ready for NTR -- from 22 Aug (SSK/DO)

==> item not discussed due to shortage of time.

2. FE & OF related :

2.1 Update on RF dump tests for 250-500 MHz cone dipole on 3 antennas -- from 19 Sep (HRB/SSK + NK)

==> no updates available -- can be taken up next week.

2.2 Directional coupler for 250-500 FE system -- from 12 Sep (ANR/SSK)

==> PCB will come in a day or so; can check status next week.

2.3 Mass production of 250-500 FE system -- from 12 Sep (ANR/SSK)

==> confirmed that mounting of polarizers is not an issue; BPF specs to be circulated and put up on website; signal flow analysis to be conducted to check if existing post amplifier will give desired performance or not; notch filter specs to be finalised; follow-up after 3 weeks.

2.4 Signal flow analysis for 250-500 MHz system -- from 12 Sep (SSK/ANR)

==> no progress; will be taken up after MTAC is over; follow-up after 3 weeks.

2.5 Update on 130-260 system -- from last week (HRB/GSS/SSK) : to check if FE & feed have been integrated and a sky test has been done.

==> not done yet; to check status next week.

2.6 Finalisation of common design for total power detector for receiver chain : FE group to report on tests done on existing unit & conclusions from the same (ANR/SSK)

==> will need extra amplifier for use in FE box; will also need an offset in the output voltage range for desired input power level; agreed to make integrated FE unit with above features, using same device; one unit for FE box, one unit for Common box; follow-up after one month.

2.7 Discussion of filters at different stages of receiver chain -- from 19 Sep (ANR/SSK/BAK)

==> SSK to circulate a draft with proposed specs to form the basis of a detailed discussion in a subsequent meeting; follow-up 2 weeks from now.

2.8 Testing of full signal flow on modified Common Box on W04 -- from 12 Sep (SSK/ANR/BAK) : (i) FE team to report about possibility for 6 dB margin to adjust for 100/200/400 MHz settings and (ii) BE team to give range of input values for analog BE system.

==> item not discussed as all concerned (SSK, BAK) not available at the same time; to be taken up separately (YG), otherwise next week.

2.9 Calibration scheme with radiator at apex of antenna -- follow-up from 19 Sep (SSK/PAR) : draft report to be circulated and discussion based on that to be scheduled by YG.

==> will take some more time for last round of measurements and final report; meanwhile, can circulate the draft version showed in 5 Sep meeting to YG for initiating discussions.

3. RFI related matters :

3.1 Effect of military satellite RFI in 243 band -- from 19 Sep (PAR/SSK) : first version of report to be released.

==> not ready; to check again after 2 weeks.

3.2 Mobile phone RFI -- from 29 Aug (SSK/PAR)

==> waiting for one more round of data from E6 antenna -- to try before GTAC starts; follow-up after 2 weeks; iPhone follow-up with Divya to be done.

3.3 Discussion on finalisation of UPS RFI report -- from 5 & 19 Sep (SSK/PAR): Report detailed comparison of Miltech, Consul and presently used antenna UPS units.

==> waiting for recheck of Consul unit -- to follow-up with electrical group on this matter (SSK); recheck after 2-3 weeks.

4. Operations :

4.1 Ethernet switches for antenna base -- from 29 Aug (SN/BAK/SSK) :

(i) one 16 port Procurve switch was to be given by Manges to RFI group for test of RFI (ii) telemetry group was to double check expected data rates from antenna base to CEB (for checking 1 Gbps limit).

==> (i) one 24 port and one 8 port switch available for testing; first version of RFI shielding box for 8 port available; ports can not be terminated, but on 24 port they can be software disabled -- to test with and without this feature; follow-up after 2 weeks.

(ii) no update; can be checked after 2 weeks ?

5. Back-ends :

5.1 Status of analog FE mass production for 8 ants, dual pol -- from 12 Sep (BAK)

==> 2nd pol of 4 antenna system will be done this week; expansion to 8 antenna system needs some boxes to be completed -- to check with mech group for getting done in our w'shop or at TIFR (BAK + HSK); follow-up after 2 weeks.

5.2 GPU corr -- from last week (SHR/BAK) : updates on (i) release of 4 node, 8 input, 200/250 MHz version and 8 node, 16 input, 150 MHz version (ii) test of time slicing dynamically on FPGA or while transferring to PCs (iii) feeding one PC

with 4 inputs to check if I/O can be sustained (iv) one round of walk through the code for further optimisation and rationalisation, (v) any other updates.

==> no detailed discussion done; follow-up next week ?

5.3 Final outcomes from recent astronomical tests and data analysis, and plans for further astronomical tests (DVL/YG)

==> DVL has proposed a set of tests similar to / repeat of earlier round of tests to check the performance; detailed plan for tests to be drawn up and discussed with back-end group; to check status after 2 weeks.

5.4 Status of final online control for GPU corr -- from 12 Sep (SSK/JPK/NR)

==> no direct update; Sanjay has been working on it and offline version has been tested; will be moving to real-time version soon; follow-up after 2 weeks.

5.5 Update on SFP+ work & future plans -- from 12 Sep (KDB/BAK)

==> waiting for last round of inputs from Vitesse; to be followed by meeting with MTE (next week some time?); also looking into Roach 2 40Gbe version for SKA-SA; follow-up after 2 weeks.

5.6 Next-gen time & frequency standards -- from 5 Sep (NDS/BAK)

==> detailed comparison table has been prepared -- ~ 6 parties, 3 Russians, 3 others -- factor of 2 difference in prices and some differences in features; to be updated with some more information (e.g. current astro users, comparison info from Symmetricom) and then circulated amongst interested persons; follow-up after 3 weeks.

6. Other items :

6.1 Follow-up on 15m work -- from 12 Sep (JNC)

==> 1-3 GHz feed tests look encouraging, except for some spots around 1.5 GHz region; to cross-check reliability of portable SA with main unit at GMRT; 1.8 GHz notch filter : design for modified unit with less rejection at 1720 MHz is ready -- can decide to send for production after acceptance tests of original unit when it comes from vendor; new, Roach based back-end is ready and will be installed in a week's time; follow-up after 3 weeks.

6.2 Follow-up on FPA work -- from 12 Sep (JNC/YG)

==> still some confusion about how the connections are to be made and tested -- come clarifications done : to go ahead with sequential one-to-one scheme; to plan for a bigger meeting next week to follow-up on the activity; can check status next week.

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Minutes of Plan meet of 10th Oct 2012 (follow-up of some pending topics from different areas) :

1. Documentation related :

1.1 Documentation : follow-up on level 2 (ITR) : conversion of older reports (SSK & BAK to work on one report each from their group) & general taking stock of the matter -- from 22 Aug & earlier (SSK/BAK/DO)
==> BAK has identified one report that is being converted; SSK to do the same; follow-up after 2 weeks.

1.2 Documentation : follow-up on level 3 (NTR) : check if any material ready for NTR -- from 22 Aug (SSK/DO)
==> Report on design of OF system to be taken up; follow-up after 4 weeks.

2. FE & OF related :

2.1 Update on RF dump tests for 250-500 MHz cone dipole on 3 antennas -- from 19 Sep -- pending from last week (HRB/SSK + NK)
==> still waiting for resolving the fitting problem; HRB to follow-up with MS and DO. Also to take one more dump and do a cross-check. Follow-up after 2 weeks.

2.2 Directional coupler for 250-500 FE system -- status update from last week (ANR/SSK)
==> PCB has come, chassis will come next week and all tests will be over in 2 weeks; can check after 2 weeks.

2.3 Follow-up on delivery of 550-900 MHz filters -- from 22 Aug (ANR/SSK)
==> waiting for update from vendor; later email update from Anil Raut : vendor has sent some prototype test results and feedback + comments on this have been sent back to him for further improvements, which he has agreed to incorporate in the final design. To follow-up the status after 3 weeks.

2.4 Fabrication of spare L-band feed : drawing to be completed -- from 26 Sep (SSK/HSK)
==> email update from HSK : entire feed has been disassembled; fabrication drawing work is in progress; will speed up after MTAC; can follow-up after 4 weeks.

2.5 Fabrication of 15 FE boxes : status update -- from 26 Sep (HSK/SSK)
==> all 15 FE boxes have fabricated in NCRA w'shop -- only completion of front plate is remaining; 250-500 plate drawing had an omission; modified drawing has been sent to NCRA; waiting for single piece to come and fitted after which final drawing will be made for the final version; to follow-up after 2 weeks.

2.6 Work orders for CSIRO feed with 2-3 parties : confirm if all orders placed and what are the expected delivery dates -- from 26 Sep (HSK/JNC)
==> email update from HSK : two work orders have been placed; waiting for 55 mm Al plate for which purchase order has been placed; can follow-up after 2 weeks.

2.7 Testing of 130-260 system -- from last few weeks (HRB/GSS/SSK) : to check if FE & feed have been integrated and a sky test has been done.

==> Tests of dipole + reflector show mismatch between 2 polarisations : one is ok, other looks like vertically offset version -- may be loss or mismatch kind of problem : to investigate further and see; check again next week.

2.8 Long-term plans and status of 130-260 system -- from 12 Sep meeting (HRB/GSS/ANR/SSK) : some pending items are : (i) raw material for making more units of hybrid (ii) choice of filters for 2 TV channels etc.

==> (i) some material got from APK which may be Ok for 100-200 MHz QH, but not for 130-260; wire-line modified version being used in present version to be followed up; wire-pack (with less loss but more expensive to be taken up later on); figures for the present sample FE box to be brought out; to be reviewed after 2 weeks; (ii) one vs two TV filters : one for default (Pune TV) and 2nd only for W-arm antennas (Junnar tv) is the current practice and may stick to same for new system also; this item can be clubbed with the main filter item.

2.9 Testing of full signal flow on modified Common Box on W04 -- pending from 12 Sep (SSK/ANR/BAK) : (i) FE team to report about possibility for 6 dB margin to adjust for 100/200/400 MHz settings and (ii) BE team to give range of input values for analog BE system.

==> email response from BAK saying that there is some flexibility, but details need to be understood and discussed; SSK : can check new 12 systems and then take another look at the matter; possibility of adding an amplifier with small gain in OF system can be looked at for effect on dynamic range; YG to try for meeting with BAK and SSK on this matter. To be followed up after 2 weeks.

2.10 Calibration scheme with radiator at apex of antenna -- follow-up from 19 Sep (SSK/PAR) : draft report to be circulated and discussion based on that to be scheduled by YG.

==> the new round of data has been taken; updated report in two weeks will be possible; to check after 2 weeks.

3. RFI related matters :

3.1 Radiation from CAT5 cable : have components come? -- follow-up from 26 Sep (SSK/PAR)

==> order needs to be split between two parties and folder to be moved. can check status after 2 weeks.

3.2 Miltec PC RFI testing & improved report : 3 items -- from 26 Sep (SSK/PAR)

==> (i) shielded serial port and ethernet tests need some more work : to try with Rabbit card as the terminating load and some other arrangement for serial port; (ii) to give comparisons with March measurements -- TBD in new report (iii) follow-up with vendor on using shielded cables inside (can share with him present results) -- follow-up check on all items after 2 weeks.

4. Operations :

4.1 Miltec PC related : final specs (+SACE), price estimates -- from 26 Sep (CPK/SN)

==> budgetary quote from Miltec for i7 model (Rs 87k each for 30nos); present ver is 1st gen i3 (Rs 55k each for 2nos and Rs 48k for 30nos quantity); to ask quote

for 2 nos ver of i7 version for test purchase; testing of SACE on present version to be done by JPK. Follow-up after 2 weeks.

4.2 Using new MCM card on ethernet of PC for upgraded analog backend -- from 12 Sep and earlier (JPK/CPK/BAK)

==> email update from BAK + in-house updates from JPK & CPK; one MCM card has been configured and basic tests done OK with commands sent from browser; total of 8 cards are needed (Ops Group to look into this); next step : server-client mechanism needed from online -- to be done by JPK (feasibility check has been done); to review after 3-4 weeks.

5. Back-ends :

5.1 Finalisation of common design for temperature detectors for receiver chain -- from 12 Sep (BAK) : update on testing / debugging of temp sensor unit

==> OpAmp (LM 358) SMD vs DIP package showing rapid variation in output values; modifications done in power supply scheme to fix the problem; PCB has been modified for the same and given for fabrication; expected to come in 2 weeks and then final tests and acceptance; can check status after 3 weeks.

5.2 GPU corr -- from last week (SHR/BAK) : updates on (i) release of 4 node, 8 input, 200/250 MHz version and 8 node, 16 input, 150 MHz version (ii) test of time slicing dynamically on FPGA or while transferring to PCs (iii) feeding one PC with 4 inputs to check if I/O can be sustained (iv) one round of walk through the code for further optimisation and rationalisation, (v) any other updates.

==> (i) 4 node, 8 i/p 200 MHz OR 400 MHz (4-bit) can be released shortly (with SoP); 8 node, 16 i/p, 150 MHz, 8-bit also available (limited by both 10 Gbe i/o and GPU computing) -- to check if 200 MHz, 4-bit can be squeezed in or not; (ii) design to transfer via switch has been done, but there is a clash between concept of IP address (on Roach board) vs switch requiring MAC address -- to be resolved

(iii) test going on, need software changes to do this and then see; could couple Swinburne colleagues into this

(iv) to work on dual input psrdada first and then the GPU code -- ongoing. To check status after 2 weeks.

5.3 User SoPs for new back-end systems -- from 26 Sep (IMH/DVL/BAK) : next version to be made available

==> 2-ant SoP needs to be tested once by DVL + IMH; multi-antenna version being developed by IMH + Reddy; both items can be followed after 2 weeks.

5.4 Status of final online control for GPU corr -- from last week (SSK/JPK/NR)

==> about 75% done; full online tests to happen soon (will need cmode option to be turned on by JPK); option is for interferometry but will have the hooks for beam mode also; hdr for beam mode can also be released; issue of 8 machines on restricted n/w (e.g. 8 port IB) pointed out : needs to be addressed appropriately -- can try the option of extra cards on some of the m/cs which allow for taking results out via 1 Gbe or 10 Gbe connections to host machines while maintaining barrier sync; follow-up after 2 weeks.

6. Other items :

6.1 Jobs in TIFR workshop -- from 3 Oct & 26 Sep (HSK) : next round of small, urgent requirements to be sent to TIFR
==> email update from HSK : 140 nos of chassis collected from TIFR w'shop; drilling, tapping, cover monting for these to be done at NCRA (50 nos in house, 50 nos being outsourced) -- being given to users as per priority demand; remaining chassis stuck in TIFR CNC machine will come after 20th Oct; small chassis of SSK : need to find a way for these; to collect any other requirements that can be sent to TIFR on their other machines. Review status after 2 weeks.

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Minutes of Plan meet of 23rd Oct 2012 (follow-up of some pending topics from different areas) :

1. Documentation related :

1.1 Documentation : follow-up on level 2 (ITR) -- from 10 Oct & earlier : conversion of older reports (one each by BAK and SSK) to be followed up.
==> BAK has identified one; SSK yet to do. To be followed after 2-3 weeks.

1.2 Update on RF dump tests for 250-500 MHz cone dipole on 3 antennas -- from 10 Oct & before (HRB/SSK) : to check if fitting problem is resolved; and also take more data to cross-check.
==> no update; can check next week.

2. FE & OF related :

2.1 Directional coupler for 250-500 FE system -- from 10 Oct & earlier (ANR/SSK) : to check if tests are over on prototype unit.
==> test results without chassis have been circulated -- looks acceptable; integration with chassis still under progress -- results will be available next week.

2.2 Testing of prototype 130-260 system -- from last week (HRB/GSS/SSK) : to check present status and confirm the plans.
==> deflection 1 dB better than expected at 150 : FE group to recompute expected value for new LNAs etc; new test using the new feed with old 233 MHz FE box showed expected deflection at 233 MHz -- cause is due to higher T_{lna} of new 130-260 system (compared to old 233 system); T_{lna} of 130-260 system can be lowered to 35 K with modified substrate -- new design will be ready in 3 weeks and then system can be retested. Can follow-up after 3 weeks.

2.3 Developments for 130-260 system -- from 10 Oct : update quadrature hybrid work.
==> Filter : 3 dB cutoff was 233 MHz, to be shifted to 240 MHz; QH being changed from 30% BW to octave BW -- sample made and tested in the lab. Integrated system (with present broadband LNA) will go up on C10 next week. Check status after 2 weeks.

2.4 Status of improved 500-1000 MHz cone-dipole for C11 -- from 29 Aug (HRB/GSS) : summary of improvements made (new dipole, better notch filters etc) and plans for retest on C11 -- from 29 Aug & before.
==> no updates -- check next week.

2.5 Follow-up on delivery of 550-900 MHz filters -- from 10 Oct (ANR/SSK) : current status with vendor to be updated.
==> prototype that meets our original specs will be delivered by vendor by 3rd week of November.

2.6 Testing of full signal flow on modified Common Box on W04 -- pending from 10 Oct (SSK/ANR/BAK) : (i) checking about 6 dB margin (SSK, BAK, YG to meet) (ii) FE team to report about new signal flow analysis being done.
==> (i) extra amplifier in OF Rx can take care of the matter, provided it is not

a significant effect on dynamic range etc -- to try an experimental set-up for this.
(ii) FE team needs bit more time to get the signal flow analysis going : to recheck the L-band analysis with and without this new amplifier and also try 250-500 band. Based on the results, can look at option for adjustable attenuator in OF system at antenna base. Can check status after 1 month.

2.7 Calibration scheme with radiator at apex of antenna -- from 10 Oct (SSK/PAR) : new data had been taken and updated report was to be circulated.
==> Draft report is ready, can be circulated within this week.

2.8 Fabrication of 15 FE boxes : status update -- from 10 Oct (HSK/SSK) : front plate completion done? Are more boxes required (otherwise matter can be closed).
==> 250-500 FE plate has been finalised and is getting done; 550-900 FE plate is still being finalised (will work for both CSIRO and cone-dipole feeds); 130-260 is being held till QH is finalised. Follow-up : 2 weeks for 550-900 and 4 weeks for 130-260.
Need a discussion with mechanical to see if long-term requirement can be met by recycling old boxes (with only one face being redone). Check after 2 weeks.

2.9 Work orders for CSIRO feed with 2-3 parties -- from 10 Oct (HSK/JNC) : status update.
==> one set of materials + castings delivered to one party; to be sent to second party shortly. Can review the status after 4 weeks.

2.10 Equipment requirement for the FE & BE group -- new item (SSK/BAK) : R&S units are proving to be unreliable for rugged use; better to go for HP or Agilent. Two options exist for portable use (Agilent), costing 2.5 L and 5 L; can check specs for these & discuss with FE, BE and Ops teams to come up with final recommendation. In addition, one high end Agilent (10 L) required for RFI purposes. Follow-up after 2 weeks.

3. RFI related matters :

3.1 Effect of military satellite RFI in 243 band -- from 17 Oct (PAR/SSK) : first version of report to be released -- from last week's MoM.
==> almost ready, will send shortly. Can check next week.

3.2 Radiation from CAT5 cable -- follow-up from 10 Oct (SSK/PAR) : have the new components arrived?
==> it is a split order; to get expected delivery dates from purchase and follow-up. Check 2 weeks later.

3.3 Discussion on UPS RFI report -- from 17 Oct (SSK/PAR) : Draft version released by RFI team -- to discuss and decide follow-up action.
==> 3 units compared : Consul, Emerson and Miltec; all have some pros and cons. To check if new Consul unit can be got for tests; to work with Miltec for improvements -- party is willing to try changes. Check status after 2 weeks.

3.4 Miltec PC RFI testing & improved report -- from 10 Oct (SSK/PAR) : 3 items to be followed-up and reported upon :
(i) shielded serial port and ethernet tests need some more work : to try with Rabbit card as the terminating load and some other arrangement for serial port;
(ii) to give comparisons with March measurements -- TBD in new report

(iii) follow-up with vendor on using shielded cables inside (can share with him present results)

==> (i) held up as new cards not ready yet.

(ii) TBD with the report.

(iii) Miltec is agreeable to try it out.

Follow-up after 2 weeks.

4. Operations :

4.1 Status of mass production of Rabbit MCM cards -- from 26 Sep (CPK/SN) : status of testing of received cards to be reported.

==> testing going fine; may take 2 months to complete all 120 cards. Will release 8 cards for analog BE control; one or two for RFI team for switch testing the week after that. Can check status after 1 month.

4.2 Miltec PC related -- from 10 Oct (CPK/JPK/SN) : follow-up on (i) SACE testing on PC (ii) quotes for 2 nos of i7 model from vendor.

==> (i) SACE testing done, required some patches for eclipse software; otherwise OK.

(ii) indent ready, alongwith improved specs for connectors.

To check status after 2 weeks.

4.3 PCs in antennas for testing M&C softwares -- new item (JPK/SN) :

Ops group would like to have at least 3 antennas equipped with PCs (from recent purchases) for testing of various new CMS softwares : Ops group to discuss internally and come back with final recommendation. Can check next week or week after.

5. Back-ends :

5.1 User SoPs for new back-end systems -- from 10 Oct (IMH/DVL/BAK) : testing of 2-ant version; multi-node version to be made available.

==> tests not done yet; multi-node version not ready yet (check next week).

5.2 GPU corr -- from 10 Oct (SHR/BAK) : status updates on 4 items + plans for tests :

(i) release of 4 node, 8 input, 200/250 MHz version and 8 node, 16 input, 150 MHz

version (ii) test of time slicing dynamically on FPGA or while transferring to PCs

(iii) feeding one PC with 4 inputs to check if I/O can be sustained (iv) one round

of walk through the code for further optimisation and rationalisation, (v) any

other updates.

==> (i) all 8 units are identical now, but not clear if the modes are released or not.

(ii) current status not clear.

(iii) not clear about current status.

(iv) Shelton is looking at one piece of code -- all 3 to meet next week.

(v) beamformer mode in the main GPU code needs to be added.

Follow-up on pending items next week.

5.3 Packetised corr -- from 10 Oct and earlier (SCC/BAK) : current status and plans.

==> No fresh update at present; plans for future to incorporate DDC and beamformer.

Problem with real vs complex FFT requirement for DDC to be sorted out (using

casper blocks). Follow-up after 2 weeks.

5.4 Status of final online control for GPU corr -- from 10 Oct (SSK/JPK/NR) :
first ver of final system to be released; other follow-up items to be resolved.
==> main control now working -- being tested with offline version of online (on
standby online machine); conversion of ifr data to fits file is almost done;
GUI : NR now understands what needs to be done and has started work on it -- may
need one month to complete.
Status check after 2 weeks.

5.5 Power and cooling requirements for projected back-end systems -- new item
(BAK/RVS/YG) : requirement for power and cooling for the projected system (in
combination with existing GSB) to be understood and to be taken up for discussion
with electrical group. First follow-up one month later.

6. Other items :

6.1 Jobs in TIFR workshop -- from 10 Oct (HSK) : status update to be provided
on (i) release of jobs stuck in the machine (ii) smaller list of high priority
jobs to be given to TIFR
==> HSK to take inputs and make list of high priority jobs for submission to TIFR

6.2 Follow-up on 15m work -- from 3 Oct (JNC)

==> From earlier inputs from JNC :

- a. 1-3 GHz feed - Shankar has looked into the 1-3 GHz feed radiation
pattern testing and has reported that he would need (i) a mechanical
arrangement for mounting the feed (ii) a broad band source antenna
(the LPD being used for RFI testing should work) and (iii) a broad band
amplifier for the source antenna.
- b. Mobile band notch filter - The PCB has come back, and testing shows
that the notch is 140 MHz away from the simulation value. Suresh Kumar
and his team is looking into this to try and understand why there is
a difference between simulation and the actual peice.
- c. Backend - Mekhala has installed the roach board, but was unable to get
the software to work. Jitendra is trying to install the required
software and see. He can now initialize the board, but has not yet been
able to acquire data from it. Ajit and his team are also looking into
the linear range of the backend.

6.3 Follow-up on FPA work -- from 3 Oct (JNC/YG)

==> From earlier inputs from JNC :

FPA Cable routing from inside the lab to outside the lab has been done,
and a place to keep the feed outside has been identified. We can
take a look on Thursday.

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Minutes of Plan meet of 31st Oct 2012 (follow-up of some pending topics from different areas) :

1. Documentation related :

Nothing to be discussed here today !

2. FE & OF related :

2.1 Update on RF dump tests for 250-500 MHz cone dipole on 3 antennas -- pending from 10 Oct & before (HRB/SSK) : to check if fitting problem is resolved; and also take more data to cross-check.

==> Problem with fitting appears solved by Manisha -- HRB to extract the results from the same; to take more data alongwith testing the attenuator settings, can include C10 (130-260) also. Follow-up after 2 weeks.

2.2 Directional coupler for 250-500 FE system -- from 10 Oct & earlier (ANR/SSK): to check if tests after integration with chassis are available now.

==> tests with chassis have been done; looks like 0.5 dB insertion loss has reduced to 0.2 dB or so; needs to be confirmed; can it be reduced further? to compare with existing 325 MHz system, and summarize everything in one note. To check status after 2 weeks.

2.3 Signal flow analysis for 250-500 MHz system -- pending from 3 Oct & earlier (SSK/ANR) : to see if some progress has been made.

==> work not yet initiated; can review after one month, but need some action !

2.4 Change of cabling (feed to FE box to Common box) as new systems are being installed -- new item (SSK) :

==>
(i) FE group to work out the total cost of fresh cabling for all systems on all antennas and (ii) outsource one sample set for cabling, including python assembly, to professional company. (ii) Python issues to be revisited with a joint team of electronics + mechanical ? Follow-up after 3 weeks.

2.5 Walsh switching arrangement in FE -- new item (SSK) :

==> to start work on this by running a test on the new L-band system (which has a faster op-amp and proper/improved phase switcher circuitry) on the bench in the lab to check switching rate and freq range of the mixer. Check status after 3 weeks.

2.6 Developments for 130-260 system -- from 10 Oct : update on QH work.

==> new FE box with modified QH and broader filter done and put up on C10 and some results have been obtained : both RF dump at antenna base as well as 30:1 output; at 150 deflection appears to be better than 'expected' (and better than existing 150 feed); at 233 it is comparable (or slightly worse?) than expected and current 235 feed -- these results needs to be understood better; need RF dumps with more integration (either on SA or offline) to get reliable/consistent results -- follow-up on this in 2 weeks time. Also, some improvements in dipole design for better mechanical implementation need to be taken up -- can take this

up after one month.

2.7 Status of improved 500-1000 MHz cone-dipole for C11 -- from 29 Aug (HRB/GSS) : summary of improvements made (new dipole, better notch filters etc) and plans for retest on C11 -- pending from 29 Aug & before.

==> new dipole 680 to 1000 MHz is ready; new cavity with 66 deg angle (instead of 70) is under fabrication; modified notch filters : 1800 BPF still needs some work to fix the shift; 540 BPF not yet started. Follow-up after 2 weeks.

2.8 Discussion of filters at different stages of receiver chain -- from 3 Oct (ANR/SSK/BAK) : SSK to circulate a draft for detailed discussion.

==> not yet ready for circulation and discussion; to check after 2 weeks.

2.9 Calibration scheme with radiator at apex of antenna -- from 10 Oct (SSK/PAR) : new data had been taken and updated report was to be circulated.

==> first version of report has been sent out, can discuss next week.

2.10 Finalisation of common design for total power detector for receiver chain -- from 26 Sep (BAK/ANR/SSK) : status update to be provided.

==> trying to fix values for ampl gain and coupler properties for FE and CB requirements; to review after 2 weeks.

2.11 Finalisation of common design for temperature detectors for receiver chain -- from 10 Oct (BAK) : update on testing new prototype unit to be reported; plans for FE unit to be discussed.

==> new prototype tested and old problem appears to be fixed; can get confirmed results by next week.

2.12 Mass installation of new OF systems -- from 17 Oct (SSK/PAR) : 5 units to be completed in MTAC; characterisation results for all antennas to be collected.

==> 4 are done (5th PIU went to W04); characterisation not complete : will be taken up slowly; can check after 2 weeks or so.

2.13 Further new OF systems -- new item (PAR/SSK):

==> comps for about 18 are there; PIUs are under order; chassis work also needs to be done; 2 more antennas can be done at present, but this can be deferred in favour of more complete testing of existing systems and take up when PIUs and chassis come in Dec; can take this up in mid-Dec.

2.14 Modification for attenuation control in new OF systems for 3 antennas (W1, E2 & S2) -- from 17 Oct (SSK/CPK) : confirm if job is fine calibration is completed.

==> W1, C6, C10, S2 are done (not E2, which remains to be done)...
OF group to send list of antennas to be modified; tel has done 10 out of 12 (C4 and S4 are remaining); fine calibration will happen as the characterisation of each antenna gets done; follow-up after 2 weeks.

2.15 Status of delivery of lasers -- from 17 Oct & earlier (SSK/PAR) : to confirm if full order for 30 ant system has been received and if this item can be closed.

==> last lot of 50 has been shipped but not received yet; can check after 1 month.

3. RFI related matters :

3.1 Effect of military satellite RFI in 243 band -- from 23 Oct (PAR/SSK) :

first version of report to be released -- from last week's MoM.
==> first version of report has been sent, can be taken up next week.

3.2 Ethernet switches for antenna base -- from 17 Oct (SN/BAK/SSK) : (i) RFI tests on sample switches, with and without port termination (software disable).
==> not yet done; follow-up after 2 weeks.

4. Operations :

4.1 PCs in antennas for testing M&C softwares -- new item from last week (JPK/SN) : Ops group would like to have at least 3 antennas equipped with PCs (from recent purchases) for testing of various new CMS softwares : Ops group to discuss internally and come back with final recommendation.
==> Nayak has been informed, but group has not yet discussed, can take up next week.

4.2 Control of new analog BE system with new MCM cards -- new sub-item : methodology of connecting the MCM cards on ethernet : local n/w vs isolated n/w etc; BAK to arrange a meeting with telemetry member, JPK and MSU to work out the long-term plan; couple this with main agenda item and take up for discussion next week.

5. Back-ends :

5.1 Status of analog BE mass production for 8 ants, dual pol -- from 17 Oct (BAK) : to confirm if 8 antenna system is ready; plans for expansion to next level to be discussed.
==> will be ready by next week; matter of 8 MCM cards and IP addresses for them etc can work out a short term plan and see how to align with the long-term plan (item above) later on. Immediate follow-up next week, next stage of work to be followed-up after 3 weeks.

5.2 User SoPs for new back-end systems -- from 23 Oct (IMH/DVL/BAK) : testing of 2-ant version; multi-node version to be made available.
==> DVL and IMH to check 2-ant version tomorrow; SHR has sent first version to IMH; can be reviewed next week.

5.3 GPU corr -- from 23 Oct (SHR/BAK) : status updates on 4 items + plans for tests : (i) release of 4 node, 8 input, 200/250 MHz version and 8 node, 16 input, 150 MHz version (ii) test of time slicing dynamically on FPGA or while transferring to PCs (iii) feeding one PC with 4 inputs to check if I/O can be sustained (iv) one round of walk through the code for further optimisation and rationalisation, (v) any other updates.
==>

(i) 4 node, 8 input ver can be released, with connections from the new analog BE system; will merge packetised design with 10 Gbe block for common application; can set a target for 2 weeks from now.
(ii) not yet tested -- may get done this week; can check status next week.
(iii) 2 10 Gbe connections from one Roach board; single prog with single trigger, 2 threads one for each stream; no loss of packets for optimal size of SHM buffers; one process is much more occupied than the other one -- needs to be resolved; can check progress next week.
(iv) not yet started : to be discussed and planned -- check next week.

(v) choosing host m/c for next generation system -- this work needs to be moved forward; review after 2 weeks.

5.4 Outcomes from recent astronomical tests & plans for further astronomical tests -- from 17 Oct (DVL/YG) : (i) implementation plan of tests proposed by DVL to be drawn up with BE team.

==> to be taken up later, after first modes are released; check 2 weeks from now.

5.5 Update on SFP+ work & future plans -- from 17 Oct (KDB/BAK)

==> some updates from vendor have been obtained; a meeting has been held with MTE earlier this week to work out the plan for fixing the loose ends with the existing system. Follow-up after 2 weeks.

5.6 Next-gen time & frequency standards -- from 3 Oct (NDS/BAK)

==> a meeting was held with Dr. Amitava Sengupta of NPL during his visit to Pune earlier this week and couple of different plans discussed with him : (i) for a visit to NPL for testing our GPS disciplined Rb against the H-maser there (ii) to try a couple of different tests at GMRT. Follow-up 2 weeks from now to finalise action items.

6. Other items :

No items for discussion here this week.

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