ADF4351 Based LO System for the GAB System

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Present status of the GAB system:

The planned activity to upgraded dual channel ADF4351 synthesizer chip based LO system is presently working as the LO system covering the LO ranging from the 150 MHz to 1500 MHz in steps of 10 KHz and all 30 antennae are completed and released as full functional system

The ADF4351 based synthesizer system has following feature:

1. LO frequency range from 150 MHz to 1500 MHz.
2. The dual channel LO will facilitate the LO synthesizer system control for each channel with a step size of 10 KHz.
3. The key advantage is Retention of the LO phase memory which is fully evaluated and confirmed. The Phase stability and CCF counts verified and details are elaborated in the technical report of the ADF4351 implementation.

Thus the requirement of the common LO path for lower side LO is void after implementation of the ADF4351 based LO synthesizer system. Now onward, common LO path is not required and not available for control and setting.

Setting from Control Room :

1. Control room can use the CDSET (all version) command to set GAB LO.

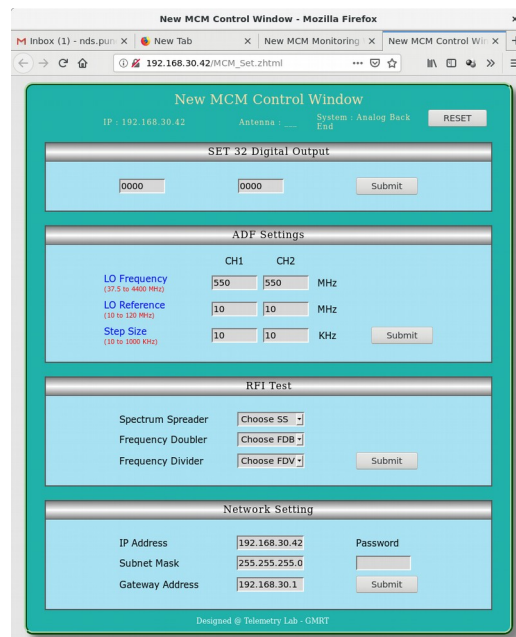   * -------------<GAB>------------------------*

    * set GAB LO [150 - 1500 MHz in-steps of 10 KHz]

           1460000 ##(LO Channel 1)

           1460000 ##(LO Channel 2)

2. Control Room users are also able to set and monitor the LO using Web Browser (Antenna MCM IP address).

Appendix : For the LO Switching frequency Command (Example script written by Control room)

```
cmode 1
dellist 2
addlist '/odisk/gtac/source/nk.list'
lnkndas
subar 4

goout
gosacout

allant
cp 0;defs 4;suba 4

gts '3C286'
sndsacsrc (1,10h)
sndsacsrc (1,10h)
stabct
/(gotosrc)

$1

*load GAB Common LO-1 at 1460 MHz
stgablo('1460000','1460000')
/setgwbrf.pl 1460
/setgwbddc.pl 1 38.0 1

gts '3C286'
sndsacsrc (1,10h)
sndsacsrc (1,10h)
stabct
/(gotosrc)

strtndasc
time  1m
stpndasc

*load GAB Common LO-2: 1462 MHz
stgablo('1462000','1462000')
/setgwbrf.pl 1462
/setgwbddc.pl 1 38.0 1

gts '3C286'
sndsacsrc (1,10h)
sndsacsrc (1,10h)
stabct
/(gotosrc)

strtndasc
time  1m
stpndasc

goto 1
end
```