Table 4 – HTS MODULE

The Phase Reference HTS module generates low phase noise reference signals to be distributed to HTS. The different phase stabilized RF signals to be generated are 650MHz,670MHz ,1300MHz and 1320MHz with the help of signal generator of very low phase noise can be used. Using suitable frequency dividers, 650MHz and 20MHz Clock signals should also be generated. Using frequency dividers, mixers and 20MHz, 670 and 1320MHz RF signals are generated from 650MHz and 1300MHz signals respectiel y. Provision to monitor all the signals generated is to be provided. Connectors and mating cables to be provided for DC power supply. All the RF components are fii ed in max of f 5 *3Ft *1.51.rack. Following are the developmental details of the HTS module along with features:-

1) EntireRF board has been designed and developed based on the basic block diagram provided by the client.
2) Suitable connectors and cables have been chosen for faithful signal transmission for board wiring as well as panel connections a d signal outputs and monitoring.
3) RF PCBs have been developed for RF components which do not have connector based modules.
4) N type connectors / adaptors and SMA connectors are chosen for panel connectio s.
5) RD405 and RG402 - 50 ohm cables with suitable SMA connectors have been developed for component interconnect.
6) FR4 based PCB Heaters have been designed for interfacing with PID controllers for controlling the temperature of Aluminum RF board within 42 +/ - 0.2 degree centi rade when ambient temperature variatio is from 18 degree C to 30 degree C.
7) Heater PCBs and the Aluminum plate are interfaced physically using 3M thermal pads having very high thermal conductivty with electrical isolaton.
8) Temperature controlled Chassis having suitable PID Controllers with power supplies have been developed for temperature control mechanism of HTS module externally.
9) 4-Wire CLASS-A RTDs have been chosen and mounted for temperature measurement of RF Aluminum plate.