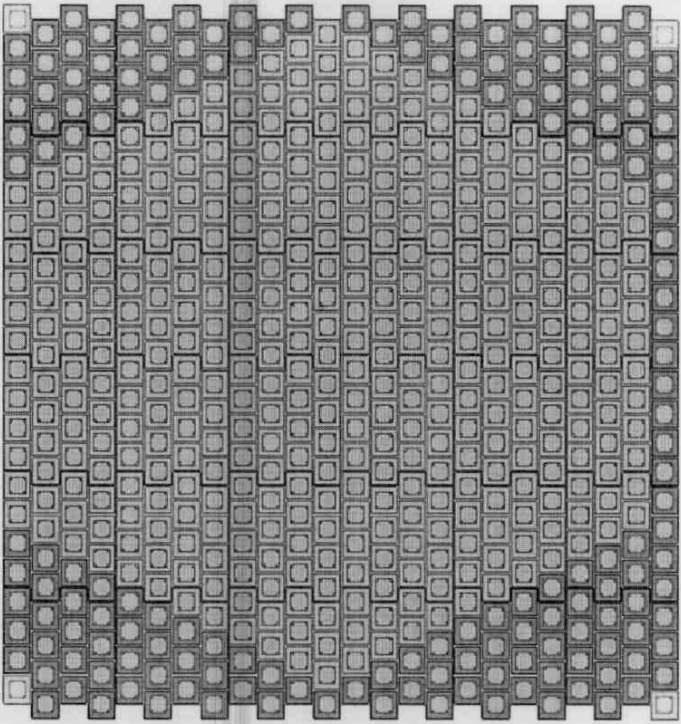
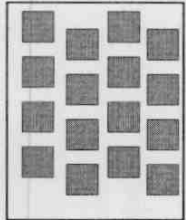


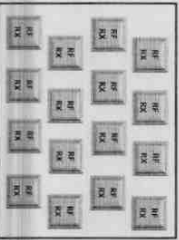
TILE



MuST POC Antenna array



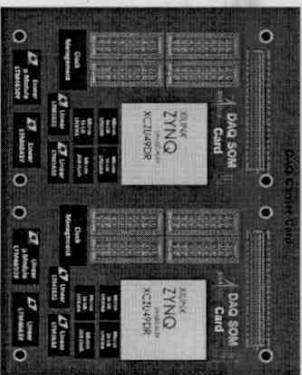
Antenna



RF Gain Modules

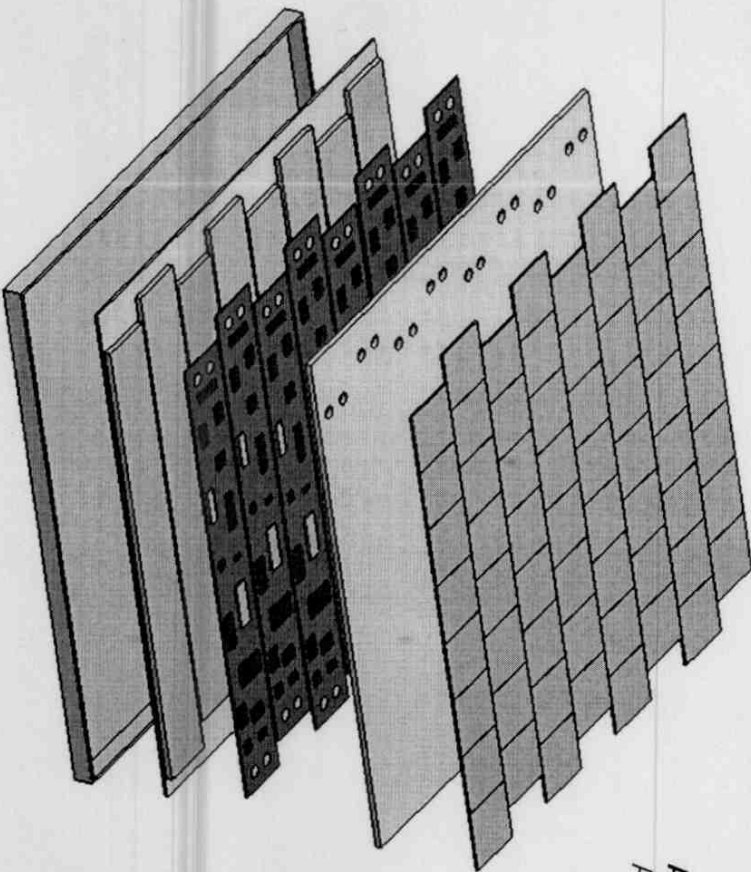
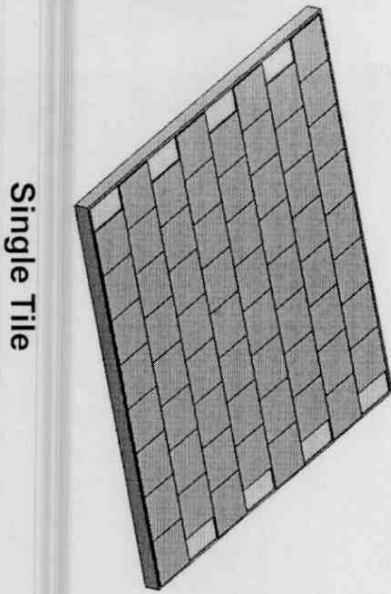


RF Front End



RF Data Acquisition

RX Array Subsystem



Antenna
Array

Ground
Plane

RF front
End PCB

Ground
Plane

Enclosur
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Antenna Array & RF Front End Sub System

Antenna Array Specifications

#	Parameter	Value
1	Frequency	2.25 GHz
2	Field of View (FOV)	±30 deg
3	Bandwidth	100MHz
4	Array Gain	33 dB
5	No of elements	397
6	Array Return Loss	15 dB
7	Polarisation	LCP & RCP
8	Scanning Loss	2.4 dB
9	Isolation	15 dB
10	Beamwidth	~4 degree
11	Element spacing (triangular grid)	0.75 lambda
12	Panel to Panel Alignment	< 1mm

Antenna Array & RF Front End Sub System

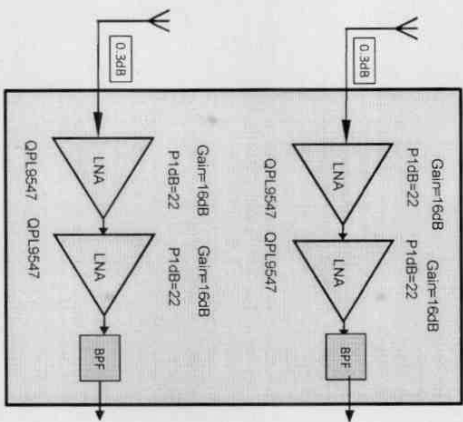
Antenna Array Element Specifications

#	Parameter	Value
1	Type	Patch / Horn
2	Frequency	2.25 GHz
3	Bandwidth	100MHz
4	Gain	7 dB
5	Return loss	23 dB
6	Polarisation	LCP, RCP/H and V(Dual Orthogonal)
7	Port-Port Isolation	15 dB
8	F/B Ratio	15 dB
9	Impedance	50 ohm

Antenna Array & RF Front End Sub System

RF Front End Module Specification

Parameter	Value
No of RF front end modules	1152
RX. Input Ports	Two (antenna's dual ports)
RX. Output Ports:	2 ports
Frequency	2.25 GHz
Bandwidth	100MHz
Noise Figure	better than 0.5 dB
Gain	better than 30 dB
Gain Stability	better than ± 0.5 dB
Phase Imbalance	better than 2 deg
P1 dB	10 dBm
Return Loss	15 dB
Impedance	50 ohm
Stop Band Attenuation	50dB@2.05 & 2.45 GHz
Channel to Channel Isolation	60 dB or better
Temp. & Humidity	10 - 50 degC, upto 95%
Hazardous Material	Lead-free and RoHS compliant
Spurious	<-60 dBc
Harmonics	<-40 dBc



RF Gain & Data Acquisition Sub-System

RF Gain Module

Functionality:

- The signal from RF front end is further amplified by RF gain Module before feeding the input to RFSoc

Major Features:

- The Noise figure of gain module is <2.81 dB.(including input PCB Routing Loss)
- The over all Gain is 50dB +/- 30dB

