



# Atacama Large Millimeter Array

## Front End Key Specifications (Preliminary Results)

ALMA Band	Frequency Range	Receiver noise temperature		Mixing scheme	Receiver technology	Responsible
		$T_{RX}$ over 80% of the RF band	$T_{RX}$ at any RF frequency			
1	31.3 – 45 GHz	17 K	28 K	USB	HEMT	Not assigned
2	67 – 90 GHz	30 K	50 K	LSB	HEMT	Not assigned
3	84 – 116 GHz	37 K (40K)	62 K (50K)	2SB	SIS	HIA
4	125 – 169 GHz	51 K	85 K	2SB	SIS	NAOJ
5	163 - 211 GHz	65 K	108 K	2SB	SIS	6 units EU
6	211 – 275 GHz	83 K (40K)	138 K (60K)	2SB	SIS	NRAO
7	275 – 373 GHz*	147 K (80K)	221 K (90K)	2SB	SIS	IRAM
8	385 – 500 GHz	98 K	147 K	DSB	SIS	NAOJ
9	602 – 720 GHz	175 K (120K)	263 K (150K)	DSB	SIS	SRON
10	787 – 950 GHz	230 K	345 K	DSB	SIS	NAOJ ?

\* - between 370 – 373 GHz  $T_{rx}$  is less then 300 K

•Dual, linear polarization channels:

- Increased sensitivity
- Measurement of 4 Stokes parameters

•183 GHz water vapour radiometer:

- Used for atmospheric path length correction