4.5cm broad band C/X secondary focus receiver (4000-9300 MHz)

This is a broad-band receiver with two orthogonal linear polarizations (at a 45°-angle with the horizon). The receiver (in most setups simultaneously) delivers 4 basebands (each with two polarizations):

Baseband	Center Frequency	Bandwidth	Comment
1	5.250 GHz	2500 MHz	beware of strong RFI at frequencies < 4.5 GHz!
2	6.750 GHz	2500 MHz	
3	6.668 GHz	200 MHz	for methanol observations
4	4.829 GHz	200 MHz	for formaldehyde observations

Calibration Information

Frequency [GHz]	Channel	Polarisation	Tcal [K]	Tsys [K]	Sensitivity [K/Jy]	SEFD [Jy]	Aperture Eff. [%]	TMB/S [K/Jy]	Main Beam Eff. [%]	HPBW [arcsec]	Last update
5.250	1+2	lin	3.1	35	1.60	22	56	2.0	71	140	Oct 2019
6.750	1+2	lin	4.5	37	1.40	26	49	1.6	58	105	Oct 2019
6.668	1+2	lin	3.6	34	1.39	24	49	1.7	60	109	Oct 2019
4.829	1+2	lin	2.8	42	1.59	26	56	1.8	65	146	Oct 2019

normalized Gain curve (G = A0 + A1·Elv + A2·Elv2)			Observed in	confirmed
A0 = 0.9928	A1 = 4.212E-4	A2 = -6.158E-6	Jun 2016	Oct 2019

Comments:

- The gain curve was corrected for opacity (though it is small, < 0.02 throughout the band).

Version description for OBSINP

Channel assignment in the MBFITS data files

Spectroscopy modes and resolution

Baseband	f_center	Bandwidth	N_Chan	Df	Dv	dv
	GHZ	MHz		kHz	km/s	km/s
1	5.25	2500	65536	38.1	2.18	2.53
2	6.75	2500	65536	38.1	1.69	1.96
3	6.668	200	65536	3.05	0.137	0.159
4	4.829	200	65536	3.05	0.189	0.219

BW ... band width
nchan ... number of spectral channels
nu ... center frequency
Df ... Channel separation (in frequency)
Dv ... Channel separation (in velocity)
dv ... Velocity resolution (dv=1.16*Dv)

Tcal and Tsys measurements