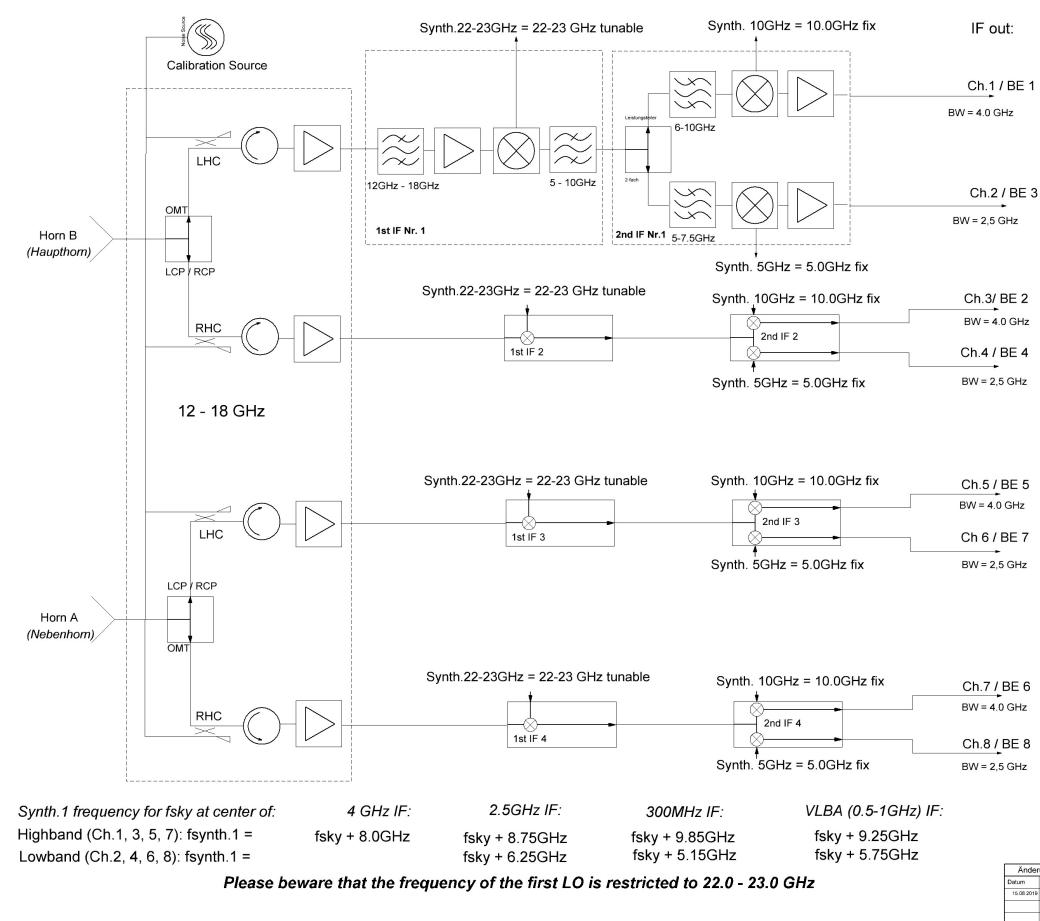


Technical Documentation of the Ku-Band Receiver 12 - 18 GHz (S20mm)

Type	HEMT cooled			
Channels	8	(upper/lower band of 2 polarizations in 2 horns each)		
Receiver Noise	<15K			
Frequency range	12 GHz - 18 GHz			
Polarization	LHC/RHC	2 horns		
Calibration	Noise diode			
1. IF	5 - 10 GHz	(Synthesizer 1 = 22 - 23 GHz)		
2. IF	0 - 4 GHz	lower band (Synthesizer 21 = 10 GHz)		
	0 -2.5GHZ	upper band (Synthesizer 22 = 5 GHz)		
Synth.1 frequency for fsky at center of:	4 GHz IF	2.5 GHz IF	300 MHz IF	0.5-1 GHz IF
Highband (Ch.1, 3, 5, 7): fsynth.1 =	fsky + 8.0GHz	fsky + 8.75GHz	fsky + 9.85GHz	fsky + 9.25GHz
Lowband (Ch.2, 4, 6, 8): fsynth.1 =		fsky + 6.25GHz	fsky + 5.15GHz	fsky + 5.75GHz



Simplified [Block Diagram](#) of the complete receiver, (RK on 19.3.2019)

[Block Diagram](#) of the 1st IF conversion, (CK on 8.3.2019)

[Block Diagram](#) of the 2nd IF conversion, (CK on 8.3.2019)

S20MM-KU Band Receiver [Signal flow Diagram](#).

S20MM-Channel Exchange: The Channel connection in patchboard has been exchanged because of the lower power output from RCP of main horn. And therefore the channels arrangement are changed. Please open the link to see the [arrangements](#).

From:
<https://eff100mwiki.mpifr-bonn.mpg.de/> - **Effelsberg 100m Teleskop**

Permanent link:
https://eff100mwiki.mpifr-bonn.mpg.de/doku.php?id=electronics:rx:techinfo:documentation_ku-band_rx_s20mm 

Last update: **2021/03/17 09:45**