Specifications for AVANCE™ III HD

400–600 MHz Spectrometers

		Standard	Option
Frequency Controller & Signal Generation Unit	Basic configuration two channels frequency range each channel	5–650 MHz each	Upgrade up to 6 frequency channels*
	Number of numerically controlled oscillators per channel	3	
	Frequency resolution	< 0.005 Hz	
	Phase resolution	< 0.006°	
	Attenuation resolution / attenuation range	< 0.1 dB / 90 dB	
	Amplitude modulation	> 90 dB	
	Event time for digital setting of frequency, phase and amplitude, either individually or simultaneously	25 ns	
	Memory per channel e.g. for pulse shaping	>8 Mbyte	
	Phase monotony over 90 dB amplitude setting range	< + / - 0.5 °	
Timing Controller	Pulse sequence parameter calculation	in real time	
	Timing resolution / min. duration	12.5 / 25 ns	
	Output bus for events and devices	96-bit	
Communication Protocol		Fast Ethernet® TCP / IP	
Host Computer	Operating system	WINDOWS® 7 or CentOS	
Receiver	Bandwidth up to 5 MHz	Yes**	multi receive
Digital Receiver Unit (DRU)	Effective dynamic range of digitizer		
	SW < 5 MHz	> 16-bit	
	SW < 1 MHz	> 18-bit	
	SW < 6 kHz	> 22-bit***	
	Data compression / digital filtering	on the fly	
	Optimum real time digital filters	Yes	

* may require cabinet upgrade
** Solids ready
*** 30% less noise vs. AVANCE III at low RG (960 MHz digital upconverter)

The 600 MHz AVANCE III HD System

		Standard	Option	Solids Option
Quadrature Receiver (RXAD)	Quadrature image peaks with digital quadrature detection	0%		
			Option CP / MAS	
Linear Amplifier #1 ^{1}H / ^{19}F	Max. output power (pulsed)	100 W	300 W	1 kW / 100 W**
	Max. duty cycle at full power	25%	10%	5% / 20%
	Max. pulse length at full power	100 ms	100 ms	100 ms
	Frequency range	< 180-600 MHz	< 180-600 MHz	< 180-600 MHz
Linear Amplifier #2 Broadband	Max. output power (pulsed)	300 W	500 W	1 kW / 300 W**
	Max. duty cycle at full power	10%	6%	5% / 10%
	Max. pulse length at full power	10 ms	60 ms	100 ms
	Frequency range	6-365 MHz	6-365 MHz	6-405 MHz
Console	Dimensions and weights are approximate; voltage + 10 / -5% max. variation; 230 V / 60 Hz; Single phase; Optional 3-phase for > 7 kW; Other line freq. and voltage upon request			
Cabinet Version			**one bay**	**two bay**
Dimensions Electronic Cabinet	Basic system (w x d x h)		0.69 x 0.83 x 1.30 m	1.31 x 0.83 x 1.30 m
Weight	Basic system, typical configurations		> 260 kg	> 380 kg
Power Dissipation	Basic system, typical configurations		> 3 kW / 16 A	> 6 kW / 32 A

** output power for high resolution applications
technical specifications subject to change without notice

The Full Line of AVANCE III HD Spectrometers - offered from 300-1000 MHz

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