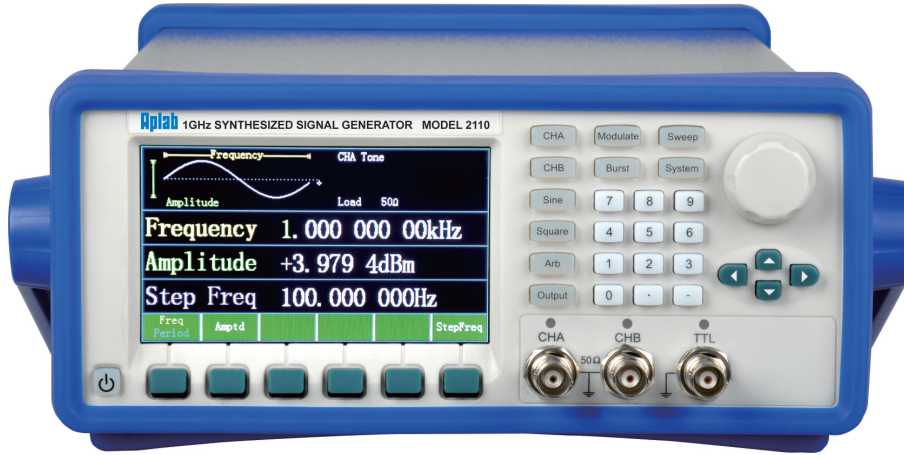


## 500 / 1000 / 1500MHz Synthesized Signal Generator



### Features

- Combine with DDS and PLL Techniques
- 1500MHz Maximum Frequency
- 1 ppm High Accuracy, Less Distortion
- Dual Independent Outputs
- AM, FM, FSK, PSK Modulation
- User can set accurate pulse width, burst signal as numbers
- USB Device, RS-232

### Technical Specifications

Models	2105	2110	2115
<b>CH A</b>			
<b>Frequency</b>			
Range	Sine	1μHz ~ 500MHz	1μHz ~ 1000MHz
	Square	1μHz ~ 80MHz	1μHz ~ 1500MHz
Resolution		1μHz (carrier frequency ≤80MHz) 1Hz (carrier frequency >80MHz)	
Accuracy		±1 ppm, Frequency ≥1.0kHz ±50 ppm, Frequency <1.0kHz.	
<b>Sine Output Level</b>			
Range	Freq < 500MHz	-127dBm ~ +13dBm (-127dBm ~ -117dBm typical).	
	Freq <1000MHz	-110dBm ~ +13dBm (-100dBm ~ -110dBm typical).	
	Freq <1500MHz	-105dBm ~ +13dBm (-100dBm ~ -105dBm typical).	
Resolution		0.1dB.	
Accuracy	Freq <300MHz	Setting ±1dBm (output level +13dBm ~ -105dBm).	
	Freq <1500MHz	Setting ±1.5dBm (output level +13dBm ~ -80dBm). Setting ±2.5dBm (output level -80dBm ~ -100dBm).	
Standing Wave Ratio (SWR)		<1.8.	
<b>Sine Spectrum Purity</b>			
Harmonic		<-33dBc (output level ≤4dBm, typical value)	
Non-Harmonic		<-40dBc (output level ≤4dBm, deviation CF≥5kHz).	
Sub-Harmonic		<-40dBc (output level ≤4dBm).	
Remain Modulating Frequency		<100Hz (BW : 0.3 ~ 3kHz, RMS < 120MHz)	
<b>Square</b>			
Rise / Fall Time		≤15ns.	
Overshoot		≤5%.	
<b>Modulation</b>			
Type		AM, FM, FSK, PSK.	
AM	Accuracy	±(7% of setting vau e +1.5%)	
	Modulation Rate	Internal 1μHz ~ 20kHz External 20Hz ~ 20kHz.	

FM	Modulation Rate	Internal 1 $\mu$ Hz ~ 20kHz (Carrier Frequency $\leq$ 80MHz). Internal 1 $\mu$ Hz ~ 1kHz (Carrier Frequency >80MHz) External 20Hz ~ 10kHz, External 20Hz ~ 1kHz (Carrier Frequency >80MHz).
FSK		Carrier frequency and hopping frequencies are arbitrarily set in the following frequency slicing. 1 $\mu$ Hz ~ 80MHz (FSK rate <10kHz). Trigger Mode : Internal or external (external control TTL level, low-level carrier frequency, high-level hopping frequency).
PSK		Range of phase 1 and phase 2 : 0 ~ 360°. Resolution : 0.1°. Alternating intervals : 0.1ms ~ 800s. Trigger mode : Internal or external (external control TTL level, low-level phase 1, high-level phase 2).
External Modulation Input		Voltage Range : $\pm$ 2.5V, Frequency : DC to 10kHz.
<b>Frequency Sweep</b>		
Sweep Rate		1ms ~ 800s Linear (carrier $\leq$ 80MHz) 100ms ~ 800s Logrithm (carrier $\leq$ 80MHz).
Sweep Time		50ms ~ 10s Linear (carrier >80MHz).
<b>Burst</b>		
Burst Count		1 ~ 10000 cycles.
Interval		0.1ms ~ 800s.
<b>CH B</b>		
<b>Frequency</b>		
Range		1 $\mu$ Hz ~ 10MHz.
Resolution		1 $\mu$ Hz.
Accuracy		$\pm$ 1 ppm, Frequency $\geq$ 1.0kHz. $\pm$ 50 ppm, Frequency <1.0kHz.
<b>Waveform</b>		
Type		Sine, Square, Ramp, Pulse, Sinc, Exp, Noise, DC.
Square	Edge Time	$\leq$ 50ns.
	Duty Cycle	0.01% ~ 99.99%.
Pulse	Edge Time	$\leq$ 50ns.
	Pulse Width	20ns ~ 20s.
Ramp	Symmetry	0.0% ~ 100.0%.
<b>Output</b>		
Amplitude		1mVpp ~ 10Vpp (50 ohms), 2mVpp ~ 20Vpp (High Z).
Offset		$\pm$ 5Vpk ac+dc (50 ohms), $\pm$ 10Vpk ac+dc (High Z).
Resolution		5mVpp.
Accuracy		$\pm$ (1% of setting +10mVpp).
Flatness		$\pm$ 0.5dB.
<b>General Characteristics</b>		
Power		AC 100V ~ 240V, 50 (1 $\pm$ 10%) Hz, <40VA.
Dimension		254 x 103 x 374 mm
Weight		4.2 Kg.
<b>Standard Accessories</b>		
Power Cord		1
BNC Testing Cable		1
CD (Software + User's Guide)		1
<b>Options</b>		
GPIB		
Frequency Counter (only for 2105)		
Option 1		1Hz ~ 100MHz DC coupled 30Hz ~ 200MHz AC coupled.
Option 2		100MHz ~ 2.5 GHz AC coupled.

WE PURSUE A POLICY OF CONTINUOUS DEVELOPMENT AND PRODUCT IMPROVEMENT. THUS THE SPECIFICATIONS IN THIS DOCUMENT AND THE LOCATION OF CONTROLS ON THE FRONT PANEL MAY BE CHANGED WITHOUT NOTICE.