

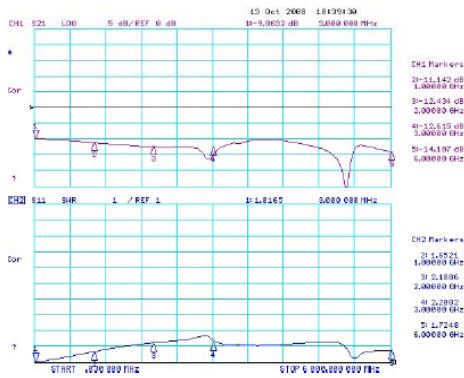
## Adjusting Potentiometer VS VAD Variable Attenuator

### Adjusting Potentiometer VS Yantel

Model	Adjusting Potentiometer	VAD1020	Conclusion
International invention patent	No	Patented in China,US,Europe and Japan etc.	<b>Yantel is better</b>
System Stability	Preliminary power amplifier will be burnt easily because of big reflection	System is stable because the reflection is small	<b>Yantel is better</b>
Frequency Range	DC to 1GHz	DC to 3GHz	<b>Yantel is better</b>
Accuracy at 10dB	2.4dB(DC~2.5GHz)	1.5dB(DC~3GHz)	<b>Yantel is better</b>
VSWR	2.46@2GHz 2.37@2.5GHz	1.4@2GHz 1.65@2.5GHz	<b>Yantel is better</b>
Insertion loss at 0dB	2.4 dB at 2GHz 4.85dB at 2.5GHz	0.8 dB at 2GHz 1.1dB at 3GHz	<b>Yantel is better</b>
Linearity	Signal distortion exists; BER increases	No signal distortion; low BER	<b>Yantel is better</b>
Accuracy of transmitting distance of RF signal	Inaccurate because of big attenuation tolerance	Accurate because of small attenuation tolerance	<b>Yantel is better</b>
Product Serialization	0-10dB	0-15dB	<b>Yantel is better</b>
Repeatability Per Switch	Unknow	100 rotation cycles; can be used into customer's product or system.	<b>Yantel is better</b>
Adjusting Model	Continuously	Continuously & Step	<b>Yantel is better</b>
Application	CATV	RF terminal system, including 2.4G RFID, WLAN, WIMAX, repeater, basic station, In-door GPS locator measuring system, UWB(wideband impulse communication)	<b>Yantel is better</b>
Price	Cheap	Competitive	
Delivery	Unknow	2 weeks for 10000~30000 pcs	<b>Yantel is better</b>

## Adjusting Potentiometer & Yantel (VAD) Attenuation-Frequency Curve and VSWR-Frequency Curve Comparison at 10dB

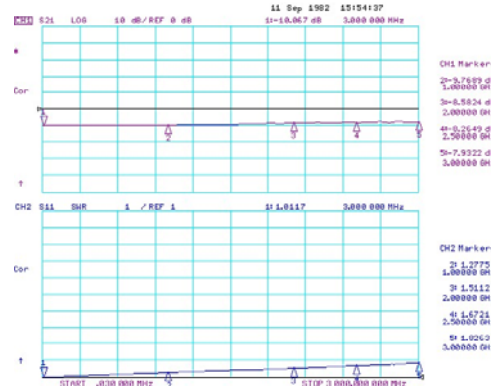
Adjusting Potentiometer



**Conclusion:**

- Big attenuation tolerance
- Big VSWR
- Frequency range: DC~1GHz
- Big insertion loss

Yantel (VAD1020)

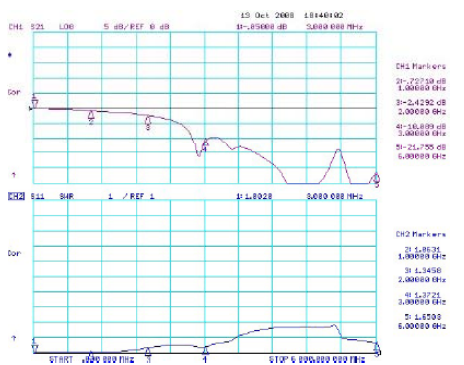


**Conclusion:**

- Small attenuation tolerance
- Small VSWR
- Wide frequency range: DC~3GHz
- Small insertion loss

## Adjusting Potentiometer & Yantel (VAD) Attenuation-Frequency Curve and VSWR-Frequency Curve Comparison at 0dB

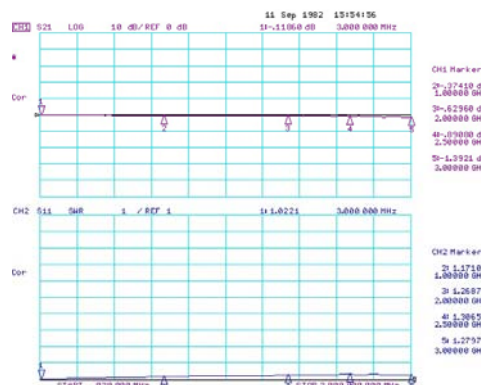
Adjusting Potentiometer



**Conclusion:**

- Big attenuation tolerance
- Big VSWR
- Frequency range: DC~1GHz
- Big insertion loss

Yantel (VAD1020)



**Conclusion:**

- Small attenuation tolerance
- Small VSWR
- Wide frequency range: DC~3GHz
- Small insertion loss