



RELIANT SWITCH™ SERIES

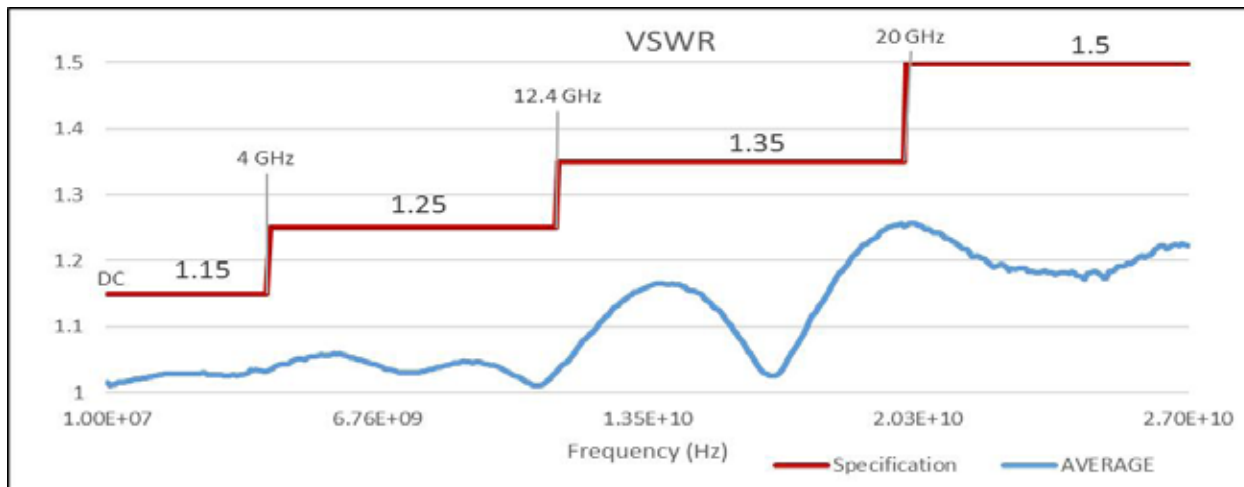
RF switch solution with high insertion loss repeatability & a minimum design life of 10 million cycles



**SPDT SWITCH:
R401K-4X0852**

RF PERFORMANCE DATA

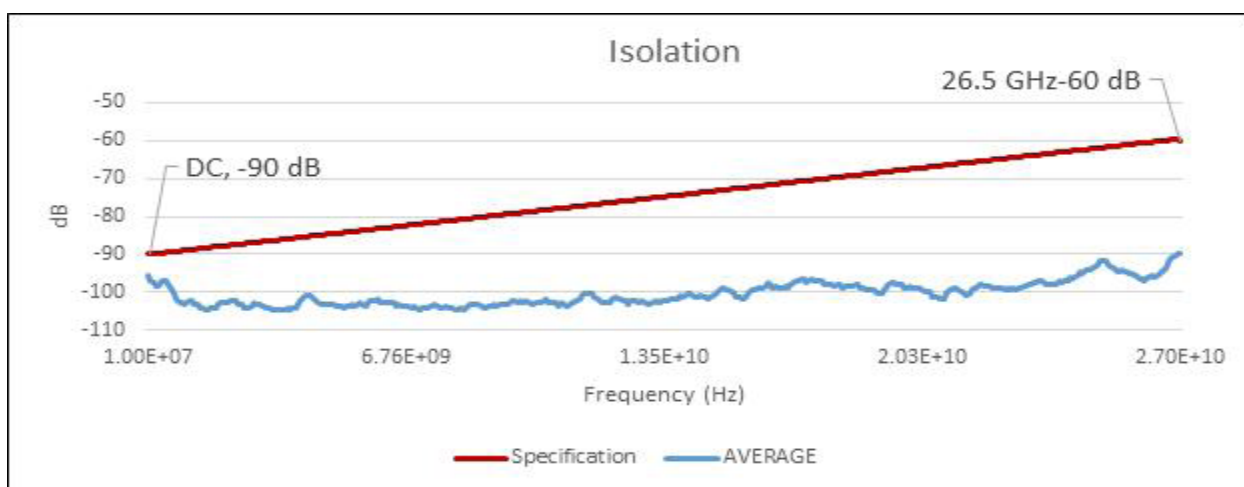
VSWR



Insertion Loss



Isolation



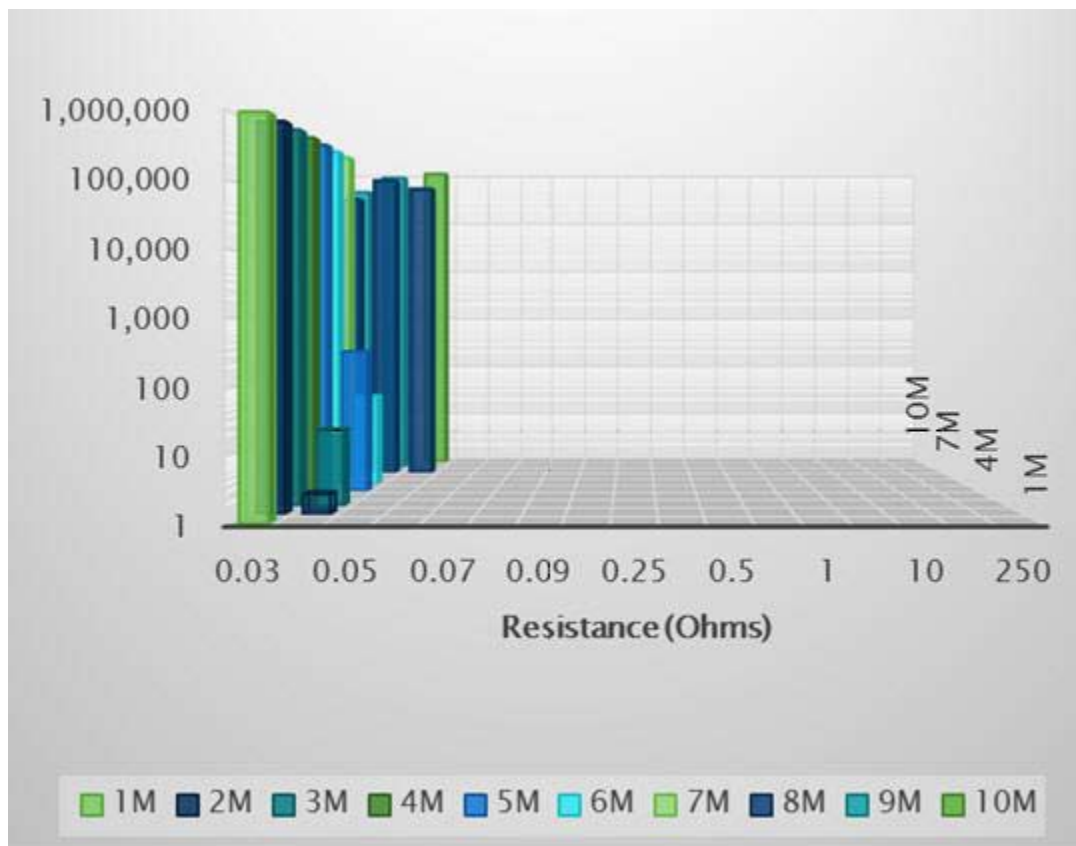
Typical RF Performance shown

QUALIFICATION TEST

SPDT Reliant Switch has successfully pass qualification testing.

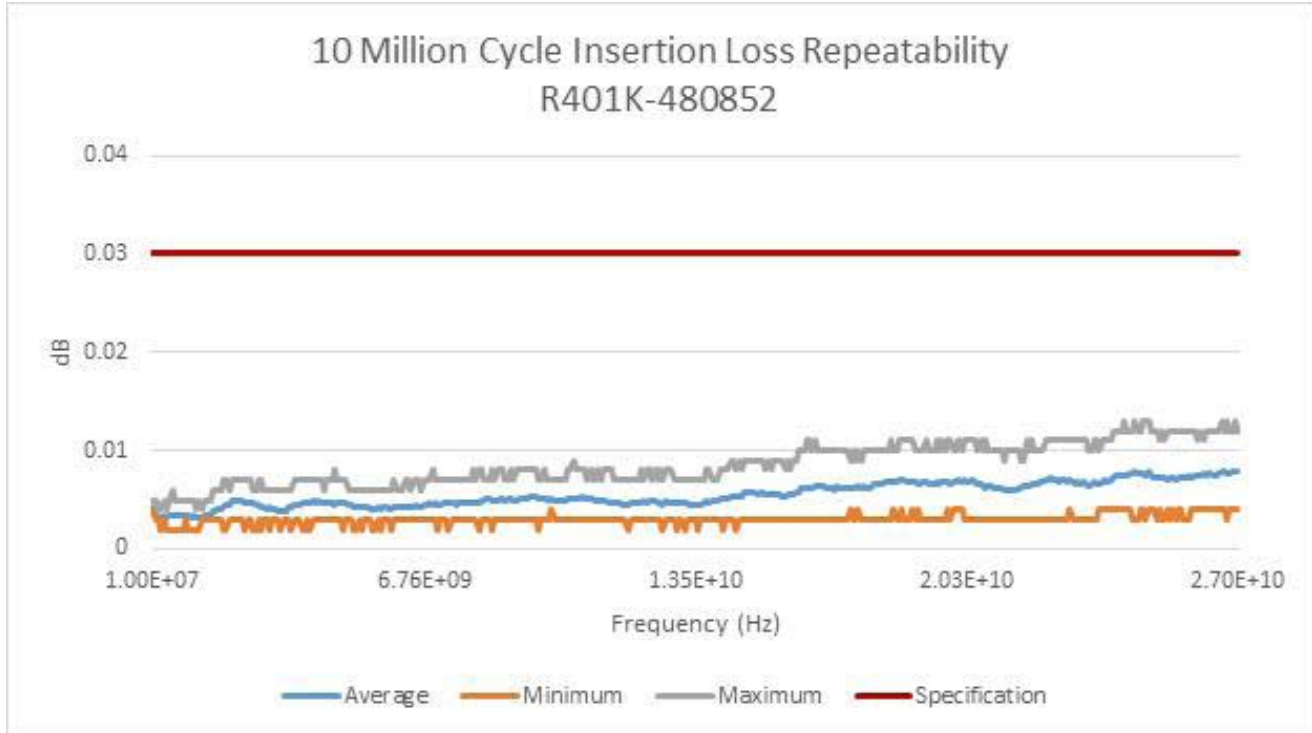
The switch design has been subjected to a very demanding Qualification Process including but not limited to:

- » Thermal Shock – to MIL-STD-202, method 107G, test condition A Modified to 10 cycles from -55°C to +85°C
- » Temperature extremes - Three Cycles of -25 °C to +75°C
- » Altitude Storage Test - MIL-STD-202G, Method 105C, Condition B. Pressure 3.44 inches / 87 mm mercury, 50,000 feet / 15,240 Meters altitude.
- » Sine Vibration Operating - Sine Vibration per MIL-STD-202G, Method 204D, Condition D, 7G peak
- » Sine Vibration Survival - Sine Vibration per MIL-STD-202G, Method 204D, Condition D. 20G peak
- » Random Vibration - MIL-STD-202G, Method 214D, condition 1, 2.41g RMS and 10 minutes per axis.
- » Shock Operating - MIL-STD-202G, Method 213-1, Condition A
- » 10 Million Cycle Life Test with Contact Resistance and Insertion Loss Repeatability Monitoring - 10,000,000 cycles operating the switch at 24V
- » Non-Switching Power Test - 200 Watts CW at 2GHz
- » Hot Switching Power Test - At 2 Watts CW power, cycle one position 50,000 times at 1 Hz at 12GHz and at room temperature.

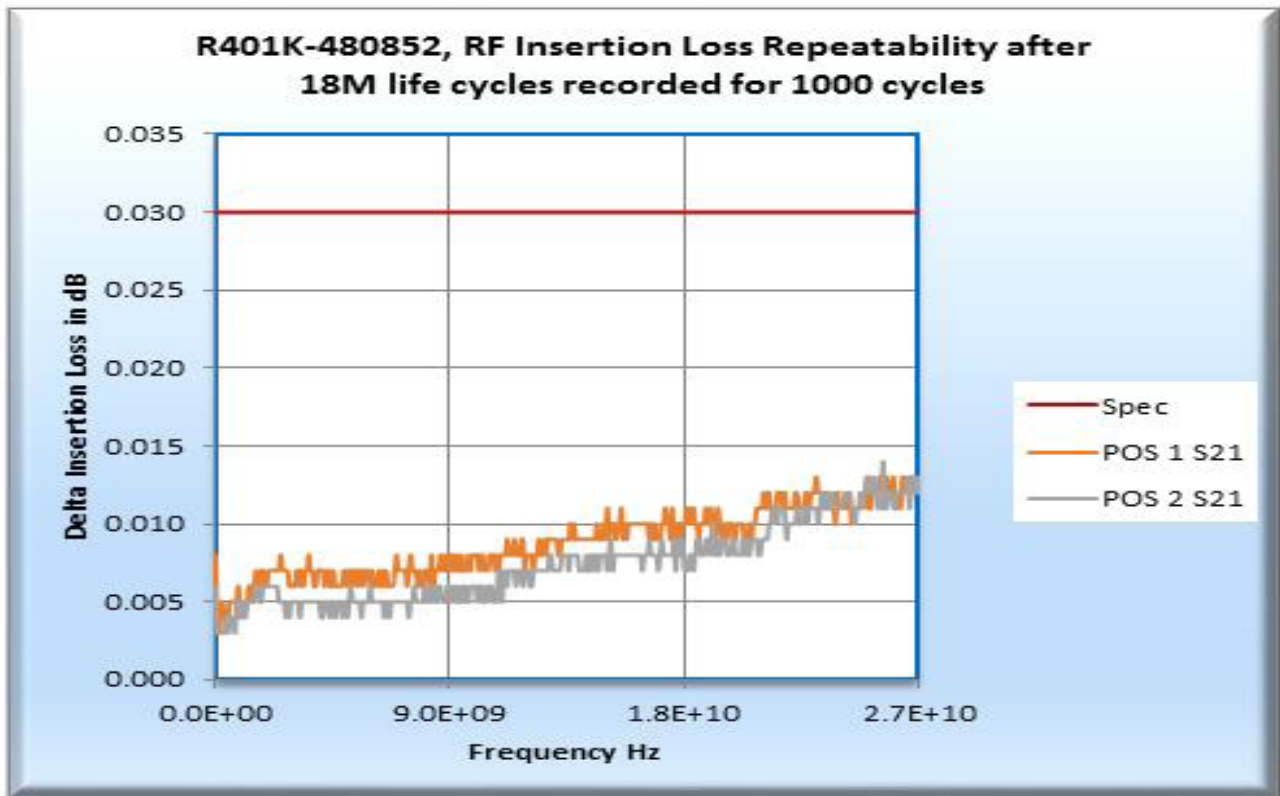


Typical RF Contact Resistance Distribution over the 10 Million Cycles

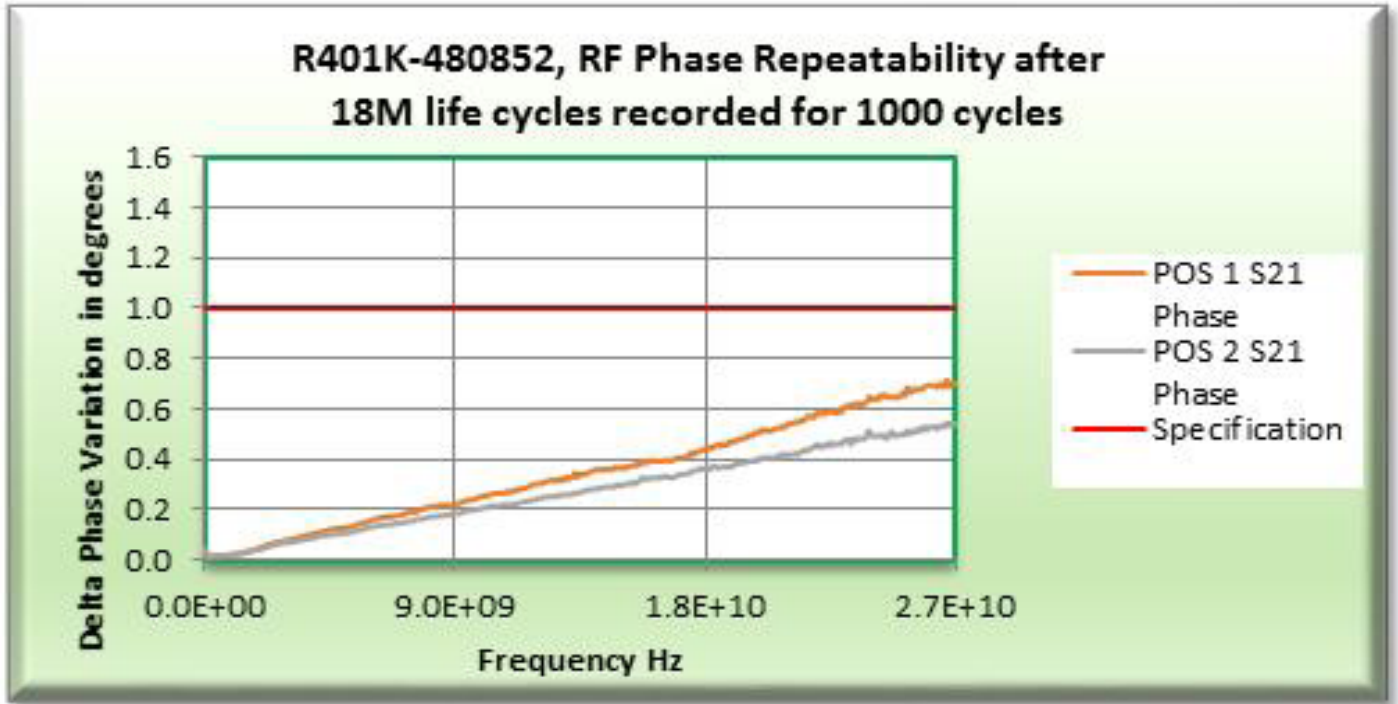
INSERTION LOSS REPEATABILITY



After completion of 10 Million cycles, the life test has been extended to 18 Million cycles. The unit still maintained insertion loss repeatability < 0.03 dB.



PHASE REPEATABILITY



After completion of 10 Million cycles, the life test has been extended to 18 Million cycles. The unit still maintained phase repeatability at 27 GHz below .8 degree

