

Keysight Technologies

Low PIM Coaxial Switches

DC to 26.5 GHz





Introduction

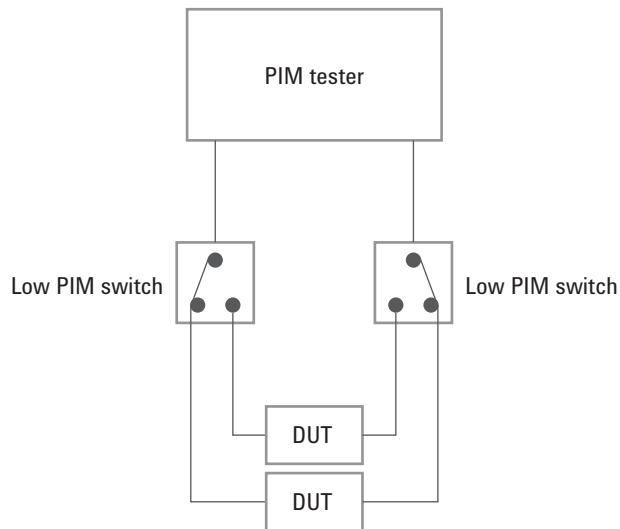
Keysight Technologies, Inc. low PIM coaxial switches provide ultra-low passive intermodulation (PIM) performance for applications where two or more transmitted signals share a common antenna or whenever the transmitter signal is too high or the receiver is sensitive to high intermodulation. These low PIM switches can help to keep the system PIM level low. A guaranteed 0.03 dB insertion loss repeatability and 3 million cycles of operating life ensures signal integrity, improves testing efficiency, and ultimately maximizes test throughput.

Target markets

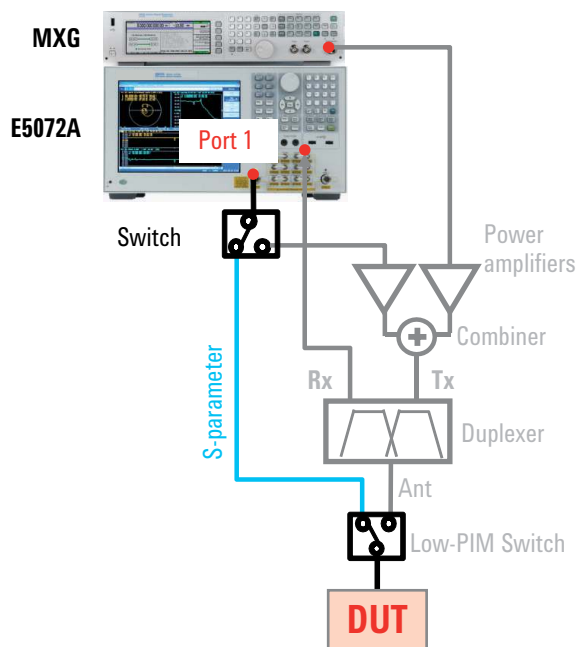
- Base transceiver station (BTS)/module manufacturers
- BTS component manufacturers
(duplexer, filter, cable)
- Handset component manufacturers
(duplexer, switches)

Key features	Benefits
Low PIM performance of -160 dBc	Minimize test system PIM level
Guaranteed 0.03 dB Insertion Loss repeatability	Ensures accuracy and reduces uncertainty
Guaranteed 3 million cycle per section	Reduces cost of test and ensures reliability of the test system life expectancy
Excellent isolation	Minimize cross-talk between channel

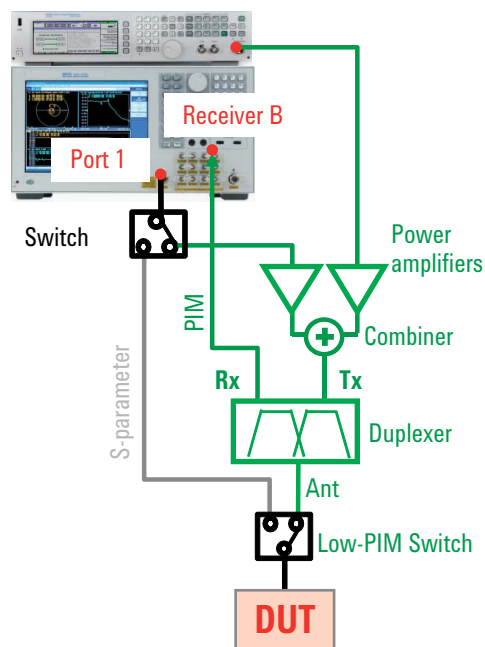
Typical application



The low PIM switches are used to extend the capability of the PIM tester to test two or more DUTs at a time, or it can be used to test a DUT with multiple lanes with a single connection. This automated test setup saves you time and resources.



(1) S-parameter measurement



(2) PIM measurement

With the help of low PIM switch, both PIM and S-parameter measurements can be performed without changing physical connections on the DUT. This reduces time spent connecting and disconnecting the DUT and significantly improves your overall test throughput.

Specification

	Frequency range	SWR (max)	Insertion loss (dB)	Isolation (dB, min)	PIM level (nominal)	Operating life cycle (min)	Insertion loss repeatability (max)	Maximum power rating
87104P/Q/R 87106P/Q/R	DC to 26.5 GHz	1.20 at 4 GHz 1.35 at 12.4 GHz 1.45 at 20 GHz 1.70 at 26.5 GHz	0.3 + 0.015 f, where f is specified in GHz	100 at 2 GHz 82 at 12.4 GHz 72 at 20 GHz 65 at 26.5 GHz	-160 dBc	3 million	0.03 dB	Hot switching: 1 W CW Cold Switching: 150 W CW at 3 GHz, 25 °C 120 W CW at 4.2 GHz, 25 °C
87222R	DC to 26.5 GHz	1.15 at 4 GHz 1.25 at 12.4 GHz 1.40 at 20 GHz 1.65 at 26.5 GHz	0.3 + 0.025 f, where f is specified in GHz	120 – 2 f, where f is specified in GHz	-160 dBc			
87406Q 87606Q	DC to 20 GHz	1.21 at 4 GHz 1.35 at 10 GHz 1.50 at 15 GHz 1.70 at 18 GHz 1.90 at 20 GHz	0.34 + 0.033 f, where f is specified in GHz	100 at 2 GHz 82 at 12.4 GHz 72 at 20 GHz	-160 dBc			
N1810T N1810U N1811T N1812U	DC to 26.5 GHz	1.15 at 4 GHz 1.25 at 12.4 GHz 1.30 at 20 GHz 1.60 at 26.5 GHz	0.35 + (0.45/26.5) f, where f is specified in GHz	95 at 2 GHz 80 at 26.5 GHz	-160 dBc			

Related literature

Publication title	Publication type	Publication number
Keysight Low PIM Coaxial Switches DC to 26.5 GHz	Data sheet	5991-3195EN

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