Single Connection Passive Intermodulation and S-parameter measurements

Agilent Technologies and ACEWAVETECH

Achieve fast, accurate, single connection PIM and S-Parameter testing of passive components

Passive Intermodulation (PIM) distortion occurs in components such as antennas, cables, connectors or filters with two or more high-power input signals. The occurrence of PIM can result in a significant decrease in the quality of a wireless communication system.

S-parameters such as return loss or insertion loss are essential measurements for passive components, and both PIM and S-parameters must be tested in order to fully qualify a passive device. Conventional test systems require a network analyzer and separate PIM analyzers in order to test a device. When different test stations are used the time required to connect and disconnect the components can be significant and greater than the actual testing time.

A new integrated solution from ACEWAVETECH (AWT) allows the measurement of PIM and S-parameters with a single connection. The AWT solution uses the Agilent E5072A ENA series network analyzer to perform S-parameter measurements combined with AWT multiband PIM analyzers. The system can be used to test wideband passive components in R&D, production or Quality Assurance.

PIM analyzers are typically designed for a specific frequency band. In order to test a device in multiband operation, multiple analyzers are required. Up to four PIM analyzers can be configured in the AWT system. When using multiple instruments for PIM measurements, all the measurement instruments are controlled by the system and measurements are synchronized for each data point. This is especially important for swept-frequency PIM measurements where many data points are required.

The AWT system is a compact, high performance and cost-effective solution providing fast and accurate measurements. With AWT's

- *Single connection measurement of PIM and S-parameters*

- *Uses Agilent E5072A ENA series network analyzers*

- *Flexible configuration, fast and accurate measurements*

- *Up to 4 PIM analyzers for multi-band testing in a single configuration*

- *Measures return loss, insertion loss and PIM*

- *Used in R&D, production and QA*

- *Verifies complete performance of passive components*

- *Cost-effective solution for mass production*

*Anticipate ___Accelerate ___Achieve*

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integrated solution, both PIM and S-parameter measurements can be performed without changing the physical connections of the DUT.

This reduces the time spent connecting and disconnecting a DUT and improves significantly your overall test throughput.

Network Analyzer E5072A
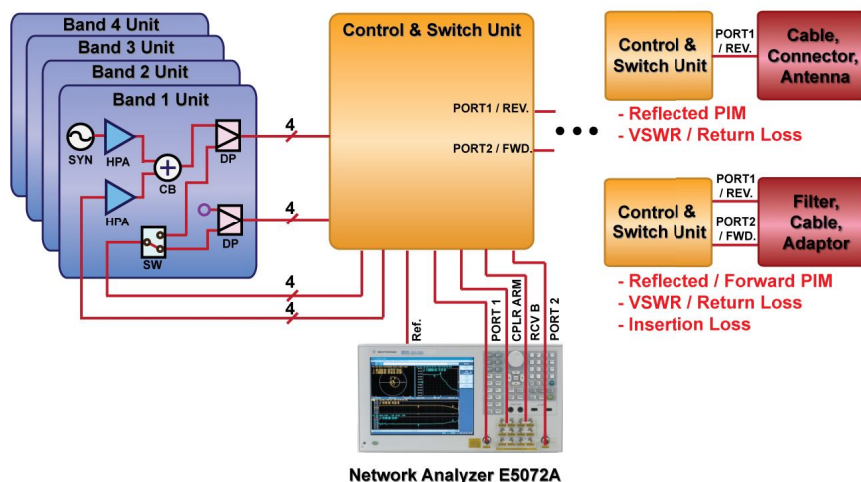
System Components

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E5072A	ENA series network analyzer

ACEWAVETECH

PIM4100	Control and switch unit
RF Units	
PIM4220	TETRA400
PIM4221	E-TETRA400
PIM4208	LTE700-U
PIM4209	LTE700-L
PIM4201	AMPS/CDMA
PIM4202	GSM900
PIM4212	LTE-JP1500
PIM4204	DCS/GSM1800
PIM4205	PCS1900
PIM4219	AWS
PIM4226	AWS+PCS1900
PIM4218	TD-SCDMA(2000)
PIM4206	UMTS/W-CDMA
PIM4216	W-CDMA-JP
PIM4215	IMT-E(2600)
PIM4207	WiBro-KR

Any combination of band can be provided on request.
Other band models are available on requests.

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ACEWAVETECH is a well-established Korean corporation whose products, systems and services are used in the telecommunications, defense, aerospace, life science and test & measurement industries. Its products include passive intermodulation (PIM) testers, RFID analyzers, waveform analyzers, radar signal generators, radar target simulators, high-speed signal sampling and recording systems, as well as customer specific system developments.
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