

TECHNICAL SPECIFICATIONS

IQ3107

Quad (1x4) RF Port Expander
(up to 7.3 GHz)

LITEPOINT

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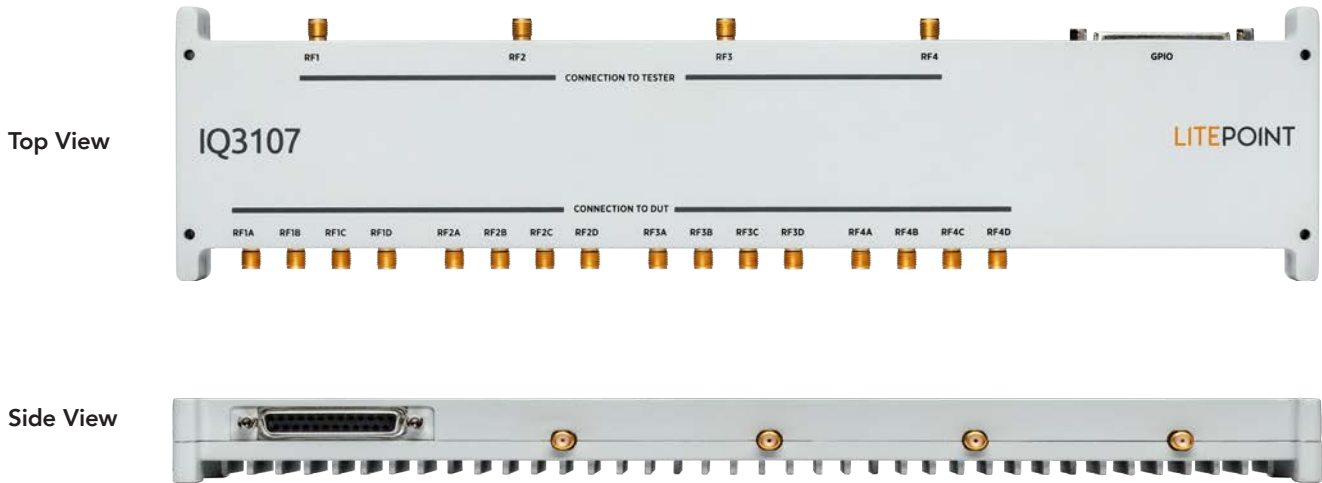
Overview

IQ3107 is a quad (1x4) electronic RF port expander for multi-antenna, multi-DUT testing across 400 – 7300 GHz frequency range. As the antenna count for cellular & connectivity devices continues to grow the future proof switch design enables easy RF port expansion translating 4 tester ports to 16 DUT ports and extended up to 32 DUT ports using the dual switch kit. Available as an optional accessory to LitePoint's test system, the switch is powered through the GPIO interface and seamlessly controlled through the tester SCPI commands.

Key Features

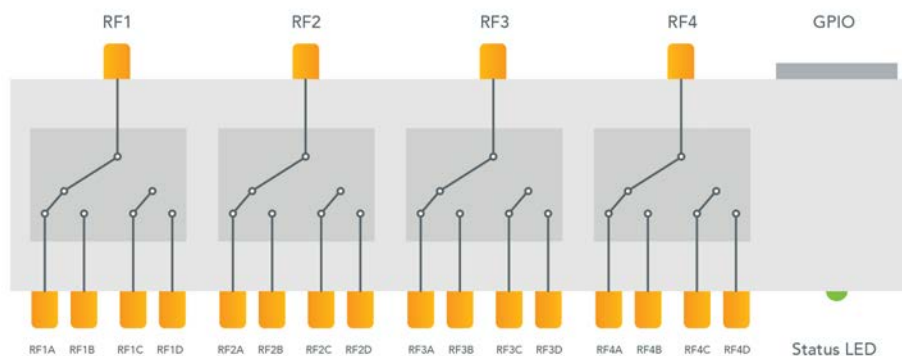
- Operational up to 7.3GHz supporting 5G FR1 frequencies and 6GHz band for Wi-Fi 6E
- Supports testing of devices with up to 16 antenna ports
- Faster switching and control via tester SCPI commands
- Full duplex ports with flexibility to individually switch or terminate ports
- Together with LitePoint's companion tester (sold separately) and the IQ5640 GPIO expansion card, the IQ3107 enables multi-device testing in manufacturing

Port Descriptions



I/O	Function
RF1, RF2, RF3, RF4	RF Connection to Tester (Common Port)
RF 1A/1B/1C/1D	RF Connection to DUT
RF 2A/2B/2C/2D	RF Connection to DUT
RF 3A/3B/3C/3D	RF Connection to DUT
RF 4A/4B/4C/4D	RF Connection to DUT
GPIO (DB25)	For IQ3107 Power & Control
Status Indicator	For Power

Schematic Diagram



General Hardware Specifications

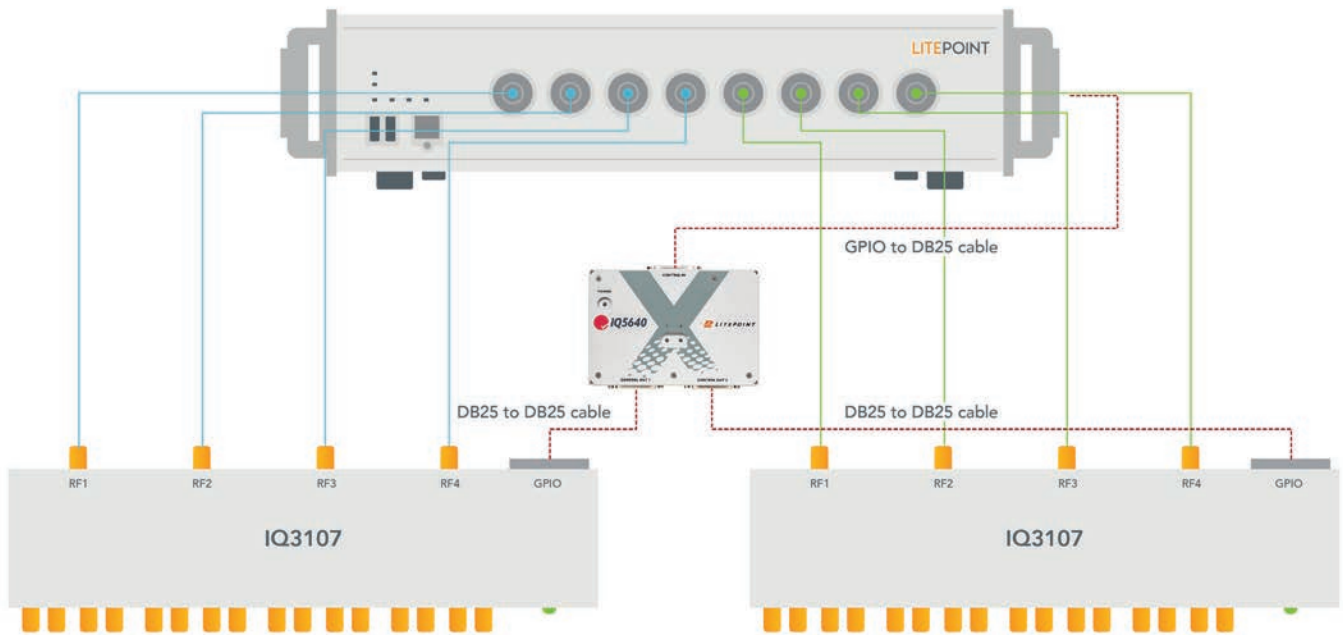
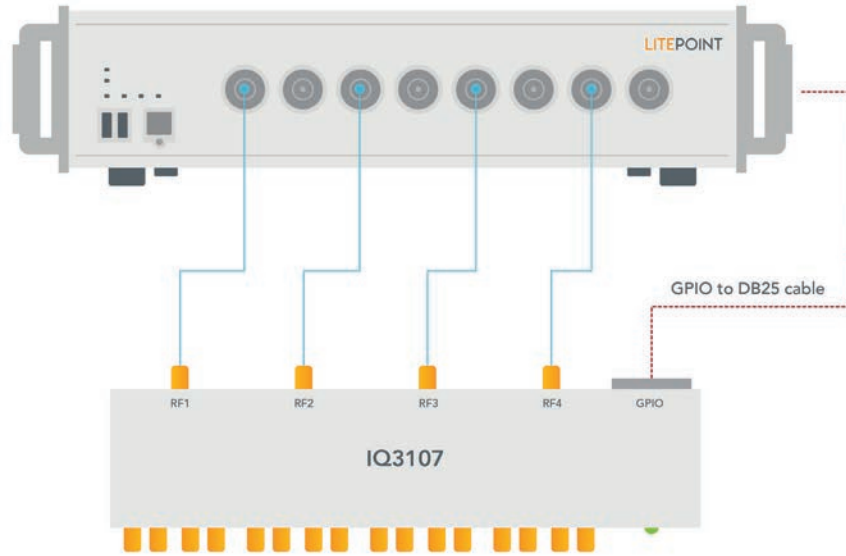
Parameter	Ports	Value
RF Frequency Range	All Ports	400 MHz to 7300 MHz
RF Maximum Input Power	All Ports	+35 dBm Peak Envelope Power
Input Impedance	All Ports	50 Ω (nominal)
Insertion Loss	Tester (Common) to DUT Ports	< 9 dB
Isolation	OFF' to 'ON' DUT Ports (RFxA/ xB/ xC/ xD) within a bank of four ports	> 66dB (400 MHz to 6000 MHz) > 64dB (> 6000 MHz)
	'OFF' to 'ON' DUT Ports (RF1x/ 2y/ 3z/ 4i) between banks	> 80 dB
Return Loss (Typical)	ON' DUT Ports	> 15 dB (400 MHz to 6000 MHz) > 14 dB (> 6000 MHz)
Port Switching Time	DUT Ports	< 50 μ s (to within 0.1 dB)

General and Environmental

Parameters	Value
Dimensions	12.25" (W) x 2.25"(D) x 1.14" (H) (312 mm x 57 mm x 30mm)
Weight	2 lb (900 gm)
Operating temperature	+10°C to +55°C (IEC EN60068-2-1, 2, 14)
Storage temperature	-20°C to +70°C (IEC EN60068-2-1, 2, 14)
Spec validity temperature	+20°C to +30°C
Operating humidity	15% to 95% relative humidity, non-condensing (IEC EN60068-2-30)
EMC/EMI	61326-1: 2013 Industrial Environment, CISPR11 Class A per EN61326-1:2013, FCC Part 15 Class A, VCCI V-3 Class A, BSMI CNS-13438 Class A, ACMA AS/NZS CISPR11: 2011, ICES-003 Class A
Safety	IEC 61010-1, EN61010-1, UL61010-1:2012 and CAN/CSA-C22.2 No. 61010-1-12
Recommended connector torque	5 in-lbs (56 N-cm)
Mechanical vibration	IEC 60068-2-6 for Sine Vibration and MIL-STD 810G for Random Vibration
Mechanical shock	ASTM D3332-99
Warranty	12 months hardware

Configuration

Together with the companion test system, the IQ3107 can be used in multiple different use models. Below are two example setups illustrating single and multi-DUT testing for R&D and manufacturing test environment.



Order Codes

Code	Product
0150-XS5G-009	IQ3107 Single Switch Kit. Includes one IQ3107 switch and one GPIO to DB25 digital control cable.
0150-XS5G-010	IQ3107 Dual Switch Kit. Includes one IQ5640 GPIO expansion card, two IQ3107 switches, one GPIO to DB25 cables and two DB25 to DB25 cables.

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