ISS11

The Intelligent Support for your RTS Measurement System
ISS11 - Platform

- We see an increasing need for different kinds of intelligent supporting equipment for the Reverberation Test System - RTS

- The ISS11 is designed to be a flexible platform on which we can release different types of support functionality
  - 1st release: Instrument Switch
  - 2nd release: Attenuator System
  - Upcoming releases depending on customer requests
ISS11 – Instrument Switch

- Using multiple instruments together with the RTS?
  - Network analyzer, multiple communication testers...

- The Bluetest Instrument Switch remove the need for re-cabling between measurements

- Supports up to 4 different instruments
  - 3 x SP4T switches
  - Optional 2 x SPDT switch module to support 4x4 systems

- GPIB control through the Bluetest Measurement Suite
  - Integrated in the new 1.13 release
ISS11 Instrument Switch
Test Setup Example

ISS11

SP4T
SP4T
SPDT
SPDT

Comm Test 1
Comm Test 2
Comm Test 3
VNA

Measurement PC
GPIB

RTS with 4x4 MIMO

4-antenna DUT

1 2 3 4
ISS11 – Attenuator System

- For use with primarily external WLAN Access Points or WLAN clients
  - Up to 4x4 MIMO
  - In reality also other kind of base stations like LTE or WiMAX can be supported
- Enables IP throughput vs attenuation measurements on for example the new 802.11ac WLAN standard
- Contains four 95dB step attenuators with 1dB steps
  - Control through TCP-IP (Ethernet)
  - All ports available on the front using N-connectors
- Contains insertion loss calibration information for accurate measurements on both 2.4 GHz and 5 GHz band
Test Set-up Example - 802.11ac Device Testing

- **Bluetest Measurement Suite**
- **DUT with TPUT App**
- **RTS60/90**
- **Measurement report**
- **IP Throughput data**

**Bluetest Measurement Suite**

- **Ethernet (Traffic)**
- **ISS11 4x4 Attenuator box**

**Vendor specific AP web interface** (For AP set-up)

- **802.11ac AP can be tested in a similar way**
  - AP inside chamber and client outside chamber

**802.11ac AP with external antenna ports**

- 3x3 MIMO shown
- (Can be placed in small shield box to avoid interference)

Confidential - Distributed under NDA
ISS11 – Order Information

- **ISS11 – Instrument Switch**
  - **HW**
    - 158: Bluetest ISS11 Instrument Switch (Base package)
    - 159: ISS11 Instrument Switch upgrade for 4x4 MIMO
  - **SW**
    - No additional SW needed
    - Works with the regular Bluetest Measurement Suite
  - **Cables**
    - N-SMA cables needed
    - 162: 1.2m Sucotest_18
    - 163: 1.8m Sucotest_18

- **ISS11 – Attenuator System**
  - **HW**
    - 164: Bluetest ISS11 4x4 Attenuator System
  - **SW**
    - 279-13: TPUT-IP SW for ISS11 Attenuator
      - Supports both UL & DL on AP and client Stations
    - 263-x: TPUT-IP UE App for the client
  - **Cables**
    - Regular N-N cables can be used from RTS to ISS11 Attenuator
    - Cables from ISS11 to External AP provided by customer (Connectors on external AP are unknown)

- 19” Rack mount flanges included as default for all ISS11