

SEVENTEENTH ANNUAL

BiTS

Burn-in & Test Strategies Workshop

TM

March 6 - 9, 2016

**Hilton Phoenix / Mesa Hotel
Mesa, Arizona**

Archive- Posters

© 2016 BiTS Workshop – Image: Stiop / Dollarphotoclub

Presentation / Copyright Notice

The presentations in this publication comprise the pre-workshop Proceedings of the 2016 BiTS Workshop. They reflect the authors' opinions and are reproduced here as they are planned to be presented at the 2016 BiTS Workshop. Updates from this version of the papers may occur in the version that is actually presented at the BiTS Workshop. The inclusion of the papers in this publication does not constitute an endorsement by the BiTS Workshop or the sponsors.

There is NO copyright protection claimed by this publication. However, each presentation is the work of the authors and their respective companies: as such, it is strongly encouraged that any use reflect proper acknowledgement to the appropriate source. Any questions regarding the use of any materials presented should be directed to the author/s or their companies.

The BiTS logo and 'Burn-in & Test Strategies Workshop' are trademarks of BiTS Workshop.

Poster
Session

BiTS Workshop 2016 Schedule

Frontiers Day

Monday March 7 - 3:30 pm

Poster Session

"WiGig Test"

Bert Brost – Xcerra

"Re-balling BGA with Gold Plated Copper Spheres, the Need and the SMT Challenges"

Emad Al-Momani, Srikanth Mothukuri, Jack Mumbo - Intel Corporation

"Thermal Test Methodology for Validating Automotive Semiconductor Packages"

Ying Feng Pang, Amy Xia – Intel Corporation

"Insitu 256 Node Resistive Leakage Tester"

Gordon Cowan, Rich Zavala - HighRel, Inc.



WiGig Test @ 60 GHz Mission Possible

Bert Brost
Xcerra Corporation



v1.0 Specification

The initial Wireless specification was completed in January 2008 Unified standard, based on the 60 GHz spectrum. Multi-gigabit wireless connectivity for consumer electronics, personal computing and mobile devices.

IEEE 802.11ac

Draft v0.1

The IEEE announced the technical; draft of 802.11ac Providing high-throughput wireless local area networks (WLANs) on the 5GHz band. The standard was developed from 2011 through 2013 and approved in January 2014.



v0.7 Specification

The Weightless SIG announced their initial M@M specification standard in May of 2012. TV and Radio "White Space"



Created in Early 2009 and its first specification was confirmed in December 2009. 2013, WiGig joined the WiFi Alliance.

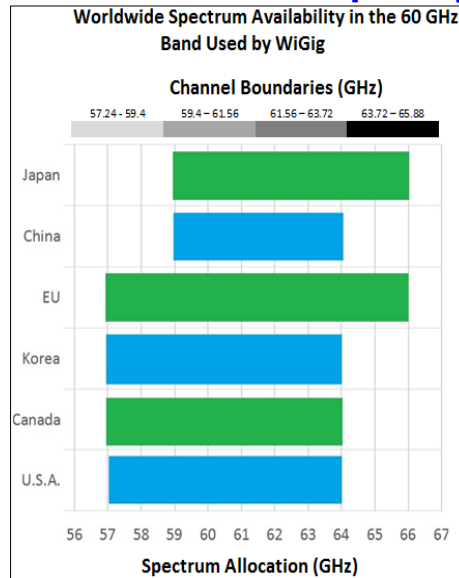
WiGig CERTIFIED™ products operate in the 60 (802.11ad) GHz frequency band and deliver multi-gigabit speeds. Intended for cable replacement for popular I/O and display extensions, wireless docking between devices like laptops and tablet, instant sync and backup and simultaneous streaming of multiple, ultra-high definition and 4K videos



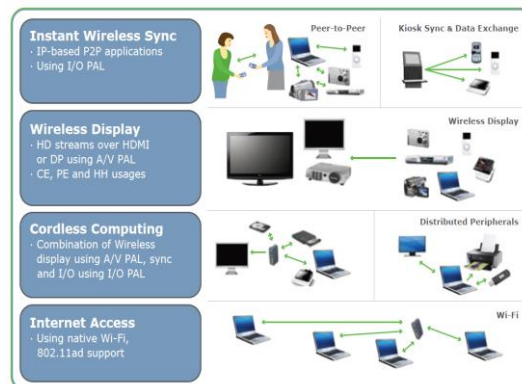
WiMedia Alliance

The wireless USB Ultra WideBand (UWB) matches the capabilities and transfer rates of USB very closely (from 1.5 and 12 Mbit/s up to 480 Mbit/s for USB 2.0) and makes for a natural wireless extension of USB in the short range (3 meters, up to 10 at a reduced rate of 110 Mbit/s).

WiGig or something else, future wireless will be in the unlicensed 60 GHz frequency spectrum



- **60 GHz wireless technology that can handle transfer speeds of up to 575MB per second.**
- **GB movie streamed in about three seconds at 575 MB per second.**



- **60 GHz delivers and outrageous boost in wireless networking speed.**
- **60 GHz spectrum allocation /frequency band IEEE 802.11ac routers will be capable of offering more bandwidth than hardwired USB 3.0.**

mmWave: Production Ready Solution Best in Test Signal Integrity

Optimized signal path

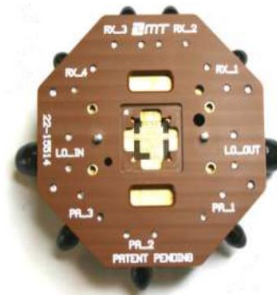
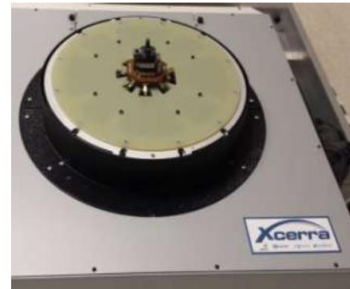
- Shortest possible, impedance controlled path

Minimum number of transitions

- High-speed signal path does not include PCB or Pogo Pins
- Compatible with single ended and differential signaling

Tested Complete Assembly: load board and contactor

- Production ready
- Highly reliable



RF Measurement Results

- Broadband performance from 0-81GHz
- Impedance and phase matched
- -4.5dB insertion loss @ 80GHz
- -10dB return loss @ 80GHz

