NEXTGEN TV Benefits to Consumers - The RF Side

January 2020
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nextgenTV

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Peter Wharton Happy Robotz

WITHOUT THEIR VOLUNTEER EFFORTS THIS SUMMIT WOULD NOT BE POSSIBLE
8:00 AM - 9:00 AM | Registration and continental breakfast

8:55 AM - 9:00 AM | Welcome from SMPTE, SBE and AES
Fred Willard, SBE Washington
Kishore Persaud, SBE Baltimore

9:00 AM - 9:05 AM | Introduction
Peter Wharton, SMPTE Membership VP
Chris Lane, Chief Engineer, WETA

9:05 AM - 9:35 AM | NextGen TV: Transforming the Consumer Experience
Lynn Claudy, SVP Technology, NAB and Chairman, ATSC Board of Directors
Madeleine Noland, President, ATSC

9:35 AM - 10:00 AM | Creating New Opportunities with NextGen TV
Joonyoung Park, VP and Fellow, DigiCAP

10:00 AM - 10:35 AM | Improved Television Reception for Consumers
Implementing NextGen TV Distribution Systems
John Lynch, ERI
Jeff Andrew, Osborn Engineering

10:35 AM - 11:15 AM | Benefits of a Converged Broadcast and IP Platform
Content Reception Enhancements
Richard Lhermitte, VP Solutions and Market Dev, ENENSYS TeamCast

11:15 AM - 11:30 AM | Morning Break

11:30 AM - 11:50 AM | Consumer Applications for Combined 5G & NextGen TV Networks
Josh Arensberg, M&E Business Development, Verizon Media

11:50 AM - 12:15 PM | Case Study: Hybrid Services at “Chicago 3.0”
Jean Macher, Harmonic

12:15 PM - 01:20 PM | Buffet Lunch

01:25 PM - 01:45 PM | Protecting the NextGen TV Consumer
Advanced EAS and AWARN Capabilities
John McCoskey, SpectraRep

01:45 PM - 02:15 PM | Monetizing the NextGen TV Consumer
Addressable Advertising and Analytics
Rick Ducey & Mark Fratrik, BIA

02:20 PM - 03:20 PM | Personalizing the Consumer Experience
Interactive and Personalized Features
Mark Corl, Trivendi Digital
Greg Jarvis, Fincons
So Vang, NAB
Pete Van Peenan, Pearl TV

03:25 PM - 03:40 PM | Afternoon Break

03:40 PM - 04:10 PM | The Consumer Out-of-Home Experience
Mobile & Automotive Applications and FeMBMS (5G Broadcast)
Thomas Janner, Product Management & R&D Director, Rhode & Schwarz

04:10 PM - 04:35 PM | The ATSC 3.0 Roadmap
Lynn Claudy, SVP Technology, NAB and Chairman, ATSC Board of Directors
Madeleine Noland, President, ATSC

04:35 PM - 5:00 PM | The Consumer Technology Roadmap
Brian Markwalter, SVP Research and Standards
The Consumer Technology Association

5:00 PM - 6:00 PM | Station Group and Industry Deployment Plans
Advanced Capability Implementation Strategies
Skip Pizzi, VP Technology Education & Outreach, NAB (Moderator)
Michael Bouchard, VP Technology Strategy, ONE Media / Sinclair
Stacey Deckter, CTO, Public Media Group
Sasha Javid, COO, The Spectrum Co

6:00 PM - 8:00 PM | Cocktail Reception
Busboys and Poets
4251 S. Campbell Ave., Shirlington
Heavy Hors d’oeuvres and open bar
NEXTGEN TV

- NEXTGEN TV offers significant benefits for consumers including:
  - More robust signal – less breakup, dropouts
  - In-building reception, even through concrete walls and below grade
  - Improved Urban canyon reception & metropolitan areas
  - Larger reception coverage area with better close in coverage
Target Customer ATSC 1.0
NEXTGEN TV Targets
NEXTGEN TV Target
Including the ground floors
NEXTGEN TV Target
NEXTGEN TV

• To take advantage of NEXTGEN TV features we will need to ensure reception throughout service area!
NEXTGEN TV Delivers

More robust delivery!
More flexibility,
More services,
More platforms,

Provides more content, more places

We need more signal !!!

Scottie, we need more signal !!!
How do we get more signal?

- OFDM superior receive characteristics
- Lower gain antennas
- Increased vertical polarization
- Higher transmitter power
- Secondary Emitter Sites

All will improve the signal in the entire coverage area
Design for the Usage

- Designing for the usage cases will likely require High null fill + Secondary Emitters
  - Use main antenna to provide best service to surrounding area
  - Add Broadband Secondary Emitters sites around coverage perimeter to boost signal and protect the coverage contour
NEXTGENTV

Adding SFN or secondary emitters
The Benefits to the Consumer

Fixed UHD
NEXTGEN TV

Mobile

Home Gateway

Automotive
Build out of NEXTGEN TV

The build out of NextGen TV will require filling in areas where there is not enough signal.

- Turn On Main NextGen TV service
- Add SFN sites to the network
- Varying Antenna Heights
  some will need to be lower
Build out continued

• SFN Sites will need to be engineered for the higher power of Multiple RF channels, specifically looking at:
  – Filters and Combiners
  – Transmission Line
  – And Antennas
SUPERPANEL™

Wide Pattern

Narrow Pattern

Protect your backside
ERI NEXTGEN TV

WRAL First ATSC 3.0 On Air June’16

Pearl Phoenix 2nd Site

Michigan State ATSC 3.0 Test site
THANK YOU

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FROM THE SMPTE WASHINGTON DC SECTION

THANK YOU