

Broadcasters Panel

HPA Technology Retreat 2017



- › **Matthew Goldman** – SVP Technology, TV & Media, Ericsson
– Moderator
- › **Bob Seidel** – VP Engineering & Advanced Technology, CBS & CW TV Networks
- › **Dave Siegler** – VP Technical Operations, Cox Media Group
- › **Richard Friedel** – EVP & GM, Engineering & Operations, FOX Networks
- › **Skip Pizzi** – Senior Director of New Media Technologies, NAB
- › **Mario Vecchi** – CTO, PBS
- › **Del Parks** – SVP & CTO, Sinclair Broadcast Group

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- › **TV Spectrum Re-allocation** [*FCC waives “Quiet Period” anti-collusion*]
 - Channel repacking, “assignment” phase, etc.
 - Repacking vis-à-vis ATSC 3.0?
- › **Migration from existing ATSC (“1.0”) to ATSC 3.0**
 - “Flash Cut”
 - ATSC 1.0 “lighthouse”
 - ATSC 3.0 “lighthouse”
 - ATSC 1.0/3.0 channel sharing
- › **Migration to IT-based infrastructure in TV Ops/Facilities**
 - SMPTE/VSF real-time media over IP; AMWA NMOS control plane
- › **Impact of Alternative Content Delivery Platforms on traditional broadcasting**
 - Netflix, Google YouTube, Amazon Prime Video
 - BBC 3, Hulu (Disney/ABC, FOX, Comcast, Time Warner), HBO Go, CBS All-Access
- › **Ultra High Definition** – Level of interest & when? Concerns? What usage cases?
- › **High Dynamic Range** – Level of interest & when?
 - Is this tied to 4K? What about “Enhanced HD” (e.g., 1080p60 HDR) instead?

Band Plan for Repack

4th & Final Stage = 84 MHz cleared, 70 MHz repurposed

42	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	11	A	B	11	A	B				
48	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	7	A	B	C	11	A	B	C			
60	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	9	A	B	C	D	11	A	B	C	D			
72	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	11	A	B	C	D	E	11	A	B	C	D	E			
78	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	7	A	B	C	D	E	F	11	A	B	C	D	E	F		
84	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	3	A	B	C	D	E	F	G	11	A	B	C	D	E	F	G	
108	21	22	23	24	25	26	27	28	29	30	31	32	11	A	B	3	37	3	C	D	F	F	G	H	11	A	B	C	D	E	F	G	H	
114	21	22	23	24	25	26	27	28	29	30	31	7	A	B	C	D	3	37	3	E	F	G	H	I	11	A	B	C	D	E	F	G	H	I
126	21	22	23	24	25	26	27	28	29	9	A	B	C	D	E	F	3	37	3	G	H	I	J	11	A	B	C	D	E	F	G	H	I	J

700 MHz UL

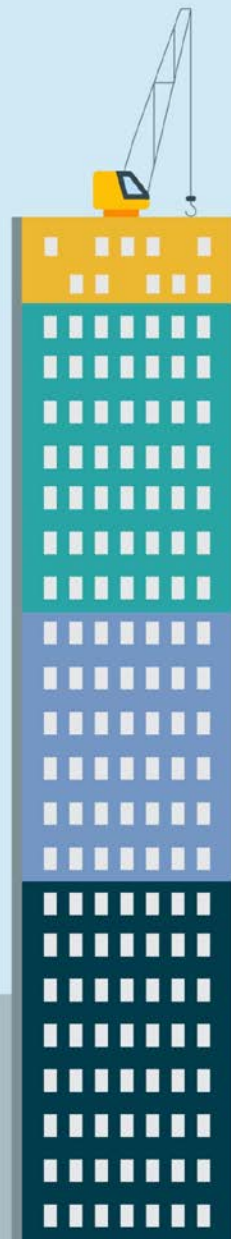
Remaining TV spectrum
(6 MHz channels)

(Radio Astronomy)

New Mobile spectrum
(5 MHz channels)

ATSC 3.0 Standards Update

February 2017



DRAFT STANDARDS

- A/300 ATSC 3.0 System
- A/323 Physical Layer Uplink/Downlink

CANDIDATE STANDARDS

- A/324 Scheduler/Studio to Transmitter Link
- A/325 Lab Performance Test Plan (RP)
- A/331 Signaling, Delivery, Sync, Error Protection
- A/337 Application Signaling
- A/341 Video - HEVC
- A/344 Interactive Content
- A/360 Security

PROPOSED STANDARDS

- A/326 Field Test Plan (RP)
- A/332 Service Announcement
- A/336 Content Recovery in Redistribution Scenarios
- A/338 Companion Device
- A/342 Part 2 Audio: AC-4 System
- A/342 Part 3 Audio: MPEG-H System

FINALIZED STANDARDS

- A/321 System Discovery and Signaling
- A/322 Physical Layer Protocol
- A/330 Link Layer Protocol
- A/333 Service Usage Reporting
- A/334 Audio Watermark Emission
- A/335 Video Watermark Emission
- A/342 Part 1 Audio Common Elements
- A/343 Captions and Subtitles