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SEP ZONES

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ZONES

NPE (/NPE)

SEP (/SEP)

ANALYTICS

OPAL - LANDSCAPE (HTTPS://PORTAL.UNIFIEDPATENTS.COM/STANDARDS/OPAL/HEVC)

OPEN - STANDARDS SUBMISSIONS

(HTTPS://PORTAL.UNIFIEDPATENTS.COM/STANDARDS/OPEN/HEVC)

ISIX - BEST LAW FIRMS (HTTPS://PORTAL.UNIFIEDPATENTS.COM/PTAB/ANALYTICS/CASE-LEVEL/ISIX?SORT=-FILING_DATE)

PVIX - PATENT VALUE (HTTPS://PORTAL.UNIFIEDPATENTS.COM/PATENTS/PORTFOLIO)

DATA

UP DAILY (/DOCKET)

PTAB (HTTPS://PORTAL.UNIFIEDPATENTS.COM/PTAB/CASELIST?SORT=-FILING_DATE)

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EXAMINER (HTTPS://PORTAL.UNIFIEDPATENTS.COM/PATENTS/EXAMINER)

PATENTS (HTTPS://PORTAL.UNIFIEDPATENTS.COM/PATENTS/SEARCH)

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Deter unsubstantiated SEP demands

NPE (/NPE)

SEP (/SEP)

BENEFITS

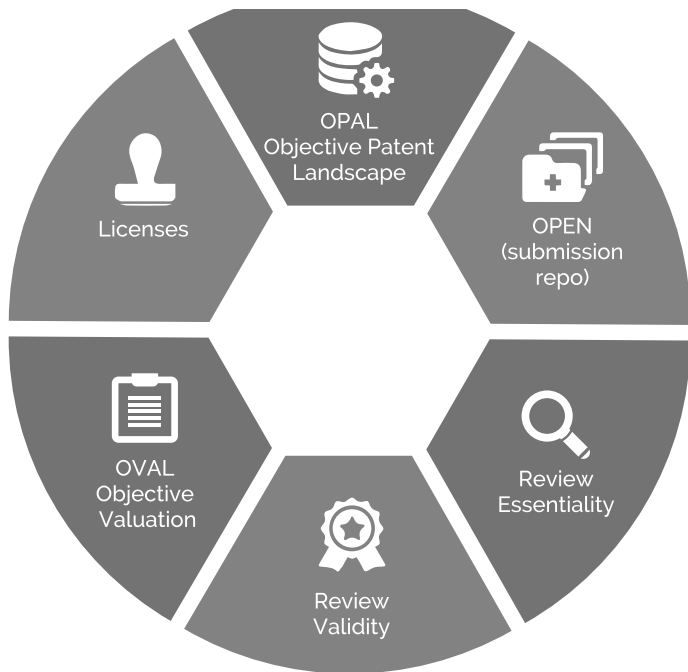
The current Standards licensing process through Patent Pools and **SEP** (self-declared Standard Essential Patents) have resulted in:

- Licensors' unreasonable licensing expectations
- Royalty stacking
- Assertion of invalid or non-essential patents

Deter SEP & FRAND Abuse in Standards

Our SEP Zones are intended to deter such activities, enable good-faith FRAND offers, and help standards thrive. This process includes risk monitoring, objective landscapes (**OPAL** (<https://portal.unifiedpatents.com/>)), searchable database of standards submissions (**OPEN** (<https://portal.unifiedpatents.com/>)), objective top-down royalty analyses (**OVAL** (<https://www.unifiedpatents.com/insights/2019/1/9/independent-economic-study-suggests-hevc-royalties-should-be-comparable-to-or-less-than-rates-for-avc>)), validity and essentiality reviews (**VETTED**), and more.





Zone Activities and Goals

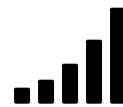
- Protect standards
- Tools to craft good-faith FRAND offers
- Litigation Ready
- Strengthen essentiality designations and SEP validity
- Increased knowledge and transparency
- Help standards thrive

SEP ZONES



Video Codec

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3GPP / LTE / 5G

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WiFi

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RISC-V

In Development

Video Codec

Definition

Standards and Specifications

- H.265/HEVC/MPEG-H Part 2 (all versions, extensions, profiles)
- H.266 / VVC / MPEG-5 (all versions, extensions, profiles)
- AV1 / VP9

Capabilities

- Hardware / Software base
- Parallelization
- Encoding / Decoding
- Distribution / Streaming
- Authoring / Packagers
- Broadcast / Live
- Scalability

Compression Techniques

- Entropy Encoding (e.g. VLC, BAC)
- Context Adaptive Methods (e.g. CAVLC, CABAC)
- Lossless and Lossy Encoding
- Block Partitioning
- Intra-Frame Coding
- Inter-Frame Coding
- Transform, Scaling, Quantization
- In-Loop Filters

Integration with External Systems

- Storage (e.g. ISOBMFF, HEIF)
- Dynamic Delivery
- Streaming (e.g. MPEG-DASH, HLS)
- Broadcast (e.g. MPEG-2)
- Videoconferencing (e.g. RTP)
- Negotiation Mechanisms & Systems Signaling
- Data Multiplexing Designs

Implementation Options

- Encoding and Decoding Algorithms and Design
- Angle and Screen Content Coding Extensions
- Data Loss, Corruption Detection, Recovery
- High-Level Syntax
- Buffering Management
- Random Access, Channel Switching, Trick Modes
- Pre-/Post-Processing of Video Data

3GPP / LTE / 5G

Definition

Standards and Specifications

- 3GPP LTE Releases (Releases 8 through 14)

Data Transfer Rate

- Directional Signal Transmission (Beam-forming)
- Hybrid Automatic Repeat Request (HARQ)
- Multiple-Input & Multiple Output (MIMO)

Channel Efficiency

- Modulation Schemes (QAM, ASK, PSK, OFDM)
- Single & Multiple Access (OFDMA)
- Carrier Aggregation

Power Management

- Coordinated Multipoint Transmission (CoMP)

Applicability

- Device
- Network

Network Reliability & Coverage

- Relays
- Macrocells, Picocells, Femtocells
- Outdoor and Indoor Environments
- Heterogeneous Networks (HetNet)

Network Deployment

- Base Station Automation
- Self Organizing Network (SON)

Network Security

- Secure Storage
- Mutual Authentication
- Encryption & Decryption
- Air-link Ciphering

WiFi

Definition

Standards and Specifications

- IEEE 802.11xx

Data Transfer Rate

- Directional Signal Transmission (Beam-forming)
- Hybrid Automatic Repeat Request (HARQ)
- Multiple-Input & Multiple Output (MIMO)
- Basic Service Set Coloring (BSS)

Channel Efficiency

- Modulation Schemes (QAM, ASK, PSK, OFDM)
- Single & Multiple Access (OFDMA)
- 160 MHz (i.e. the channel bandwidth)

Power Management

- Target Wakeup Time (TWT)
- Coordinated Multipoint Transmission (CoMP)

Applicability

- Device
- Network

Network Reliability & Coverage

- Relays
- Macrocells, Picocells, Femtocells
- Outdoor and Indoor Environments
- Heterogeneous Networks (HetNet)

Network Deployment

- Base Station Automation
- Self Organizing Network (SON)

Network Security

- Secure Storage
- Mutual Authentication
- Encryption & Decryption
- Air-link Ciphering

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