EUROPEAN PATENT OFFICE
U.S. PATENT AND TRADEMARK OFFICE

CPC NOTICE OF CHANGES 1007

DATE: JANUARY 1, 2021

PROJECT RP0350

The following classification changes will be effected by this Notice of Changes:

Action	**Subclass**	**Group(s)**
SCHEME:		
Symbols Deleted Pending Reclassification: (frozen (F))	H04L	27/2608, 27/2611
Symbols New:	H04L	27/26025, 27/2603, 27/26035, 27/26132, 27/26134, 27/26136, 27/26265, 27/26362, 27/26412, 27/26414, 27/26416, 27/2651, 27/26522, 27/26524, 27/26526, 27/26532, 27/26534, 27/26536, 27/26538, 27/2654, 27/26542, 27/26544, 27/26546, 27/26885
Titles Changed:	H04L	Subclass
	H04L	5/00, 5/14, 5/22
	H04L	12/4013
	H04L	27/04, 27/06, 27/12, 27/14, 27/18, 27/20, 27/22, 27/2605, 27/261, 27/2613, 27/2626, 27/2628, 27/2634, 27/2636, 27/2639, 27/264, 27/2642, 27/2647, 27/265, 27/2656, 27/2675, 27/2691, 27/2695
Warnings New:	H04L	5/0044, 5/0048
	H04L	27/2602, 27/26025, 27/2603, 27/26035, 27/2608, 27/261, 27/2611, 27/2613, 27/26132, 27/26134, 27/26136, 27/262, 27/2626, 27/26265, 27/2628, 27/263, 27/2631, 27/2633, 27/2634, 27/2636, 27/26362, 27/264, 27/26412, 27/26414, 27/26416, 27/2649, 27/265, 27/2651, 27/26522, 27/26524, 27/26532, 27/26534, 27/26542, 27/26544, 27/26546, 27/2681, 27/26885
DEFINITIONS:		
Definitions Deleted:	H04L	27/2608, 27/261, 27/2611, 27/262, 27/263
Definitions New:	H04L	27/06, 27/12, 27/14, 27/20, 27/22
Definitions Modified:	H04L	SUBCLASS
	H04L	1/0001, 1/0002, 1/0079
	H04L	5/00, 5/14
	H04L	12/4013
	H04L	27/00, 27/26, 27/2605, 27/2613, 27/2626, 27/2628, 27/2634, 27/264, 27/2642, 27/2646, 27/2647, 27/2655, 27/2675, 27/2691, 27/2695, 27/2698

DATE: JANUARY 1, 2021

PROJECT RP0350

This Notice of Changes includes the following *[Check the ones included]:*

1. CLASSIFICATION SCHEME CHANGES

    ☒ A. New, Modified or Deleted Group(s)

    ☒ B. New, Modified or Deleted Warning(s)

    ☐ C. New, Modified or Deleted Note(s)

    ☐ D. New, Modified or Deleted Guidance Heading(s)

2. DEFINITIONS

    ☒ A. New or Modified Definitions (Full definition template)

    ☒ B. Modified or Deleted Definitions (Definitions Quick Fix)

3. ☒ REVISION CONCORDANCE LIST (RCL)

4. ☒ CHANGES TO THE CPC-TO-IPC CONCORDANCE LIST (CICL)

5. ☐ CHANGES TO THE CROSS-REFERENCE LIST (CRL)

DATE: JANUARY 1, 2021

PROJECT RP0350

1. CLASSIFICATION SCHEME CHANGES

   A. New, Modified or Deleted Group(s)

SUBCLASS H04L – TRANSMISSION OF DIGITAL INFORMATION, e.g. TELEGRAPHIC COMMUNICATION (typewriters B41J; order telegraphs, fire or police telegraphs G08B; visual telegraphy G08B, G08C; teleautographic systems G08C; ciphering or deciphering apparatus per se G09C; coding, decoding or code conversion, in general H03M;arrangements common to telegraphic and telephonic communication H04M; selecting H04Q)

Type*	Symbol	Indent Level Number of dots (e.g. 0, 1, 2)	Title "CPC only" text should normally be enclosed in {curly brackets}**	Transferred to#
M	H04L	SUBCLASS	TRANSMISSION OF DIGITAL INFORMATION, e.g. TELEGRAPHIC COMMUNICATION (arrangements common to telegraphic and telephonic communication H04M)	
M	H04L5/00	0	Arrangements affording multiple use of the transmission path	
M	H04L5/14	1	Two-way operation using the same type of signal, i.e. duplex	
M	H04L5/22	1	using time-division multiplexing	
M	H04L12/4013	3	{Management of data rate on the bus (systems modifying transmission characteristics according to link quality H04L1/0001)}	
M	H04L27/04	2	Modulator circuits; Transmitter circuits	
M	H04L27/06	2	Demodulator circuits; Receiver circuits	
M	H04L27/12	2	Modulator circuits; Transmitter circuits {(continuous phase modulation H04L 27/20)}	
M	H04L27/14	2	Demodulator circuits; Receiver circuits {(for continuous phase modulation systems H04L 27/22)}	
M	H04L27/18	1	Phase-modulated carrier systems, i.e. using phase-shift keying (H04L 27/32 takes precedence)	
M	H04L27/20	2	Modulator circuits; Transmitter circuits	
M	H04L27/22	2	Demodulator circuits; Receiver circuits	
C	H04L27/2602	3	{Signal structure}	H04L27/2602, H04L27/26025, H04L27/2603, H04L27/26035

Type*	Symbol	Indent Level Number of dots (e.g. 0, 1, 2)	Title "CPC only" text should normally be enclosed in {curly brackets}**	Transferred to#
N	H04L27/26025	4	{Numerology, i.e. varying one or more of symbol duration, subcarrier spacing, Fourier transform size, sampling rate or down-clocking (allocating sub-channels of the transmission path H04L5/003)}	
N	H04L27/2603	4	{Signal structure ensuring backward compatibility with legacy system}	
N	H04L27/26035	4	{Maintenance of orthogonality, e.g. for signals exchanged between cells or users, or by using covering codes or sequences (using different training sequence per antenna H04B7/0684; code allocation H04J13/16)}	
U	H04L27/2604	4	{Multiresolution systems (by means of multiresolution subcarriers H04L27/183, H04L27/3488)}	
M	H04L27/2605	4	{Symbol extensions, e.g. Zero Tail, Unique Word [UW]}	
F	H04L27/2608	4	{Allocation of payload}	H04L5/0044, H04L5/0046
T	H04L27/261	4	{Details of reference signals}	
F	H04L27/2611	5	{Distribution thereof}	H04L5/0048, H04L5/005, H04L5/0051
C	H04L27/2613	5	{Structure of the reference signals}	H04L27/2613, H04L27/26132, H04L27/26134, H04L27/26136
N	H04L27/26132	6	{using repetition}	
N	H04L27/26134	6	{Pilot insertion in the transmitter chain, e.g. pilot overlapping with data, insertion in time or frequency domain}	
N	H04L27/26136	6	{Pilot sequence conveying additional information}	
C	H04L27/262	4	{Reduction thereof by selection of pilot symbols}	H04L27/262, H04L27/261, H04L27/2613, H04L27/26132, H04L27/26134, H04L27/26136
C	H04L27/2626	3	{Arrangements specific to the transmitter only}	H04L27/2626, H04L27/26265

Type*	Symbol	Indent Level Number of dots (e.g. 0, 1, 2)	Title "CPC only" text should normally be enclosed in {curly brackets}**	Transferred to#
N	H04L27/26265	4	{Arrangements for sidelobes suppression specially adapted to multicarrier systems, e.g. spectral precoding}	
U	H04L27/2627	4	{Modulators}	
C	H04L27/2628	5	{Inverse Fourier transform modulators, e.g. inverse fast Fourier transform [IFFT] or inverse discrete Fourier transform [IDFT] modulators (H04L27/2634 takes precedence)}	H04L27/2628, H04L27/2634 H04L27/2636 H04L27/26362
C	H04L27/263	6	{modification of IFFT/IDFT modulator for performance improvement}	H04L27/263, H04L27/2634, H04L27/2636, H04L27/26362
C	H04L27/2631	6	{with polyphase implementation}	H04L27/2631, H04L27/2634, H04L27/2636, H04L27/26362
C	H04L27/2633	6	{using partial FFTs}	H04L27/2633, H04L27/2634, H04L27/2636, H04L27/26362
C	H04L27/2634	5	{Inverse fast Fourier transform [IFFT] or inverse discrete Fourier transform [IDFT] modulators in combination with other circuits for modulation}	H04L27/2634, H04L27/26362
T	H04L27/2636	6	{with FFT or DFT modulators, e.g. standard single-carrier frequency-division multiple access [SC-FDMA] transmitter or DFT spread orthogonal frequency division multiplexing [DFT-SOFDM]}	
N	H04L27/26362	6	{Subcarrier weighting equivalent to time domain filtering, e.g. weighting per subcarrier multiplication (arrangements for removing intersymbol interference at the transmitter end H04L25/03343)}	
U	H04L 27/2637	5	{with direct modulation of individual subcarriers}	
M	H04L27/2639	5	{Modulators using other transforms, e.g. discrete cosine transforms, Orthogonal Time Frequency and Space [OTFS] or hermetic transforms}	

Type*	Symbol	Indent Level Number of dots (e.g. 0, 1, 2)	Title "CPC only" text should normally be enclosed in {curly brackets}**	Transferred to#
C	H04L27/264	5	{Pulse-shaped multi-carrier, i.e. not using rectangular window}	H04L27/264, H04L27/26412, H04L27/26414, H04L27/26416
N	H04L27/26412	6	{Filtering over the entire frequency band, e.g. filtered orthogonal frequency-division multiplexing [OFDM]}	
N	H04L27/26414	6	{Filtering per subband or per resource block, e.g. universal filtered multicarrier [UFMC] or generalized frequency division multiplexing [GFDM]}	
N	H04L27/26416	6	{Filtering per subcarrier, e.g. filterbank multicarrier [FBMC]}	
M	H04L27/2642	5	{Wavelet transform modulators (wavelet-division H04L5/0008)}	
M	H04L27/2647	3	{Arrangements specific to the receiver only (equalisation H04L27/01)}	
C	H04L27/2649	4	{Demodulators}	H04L27/2649, H04L27/26524, H04L27/26526, H04L27/26532, H04L27/26534, H04L27/26536, H04L27/26538, H04L27/2654, H04L27/26542, H04L27/26544, H04L27/26546
C	H04L27/265	5	{Fourier transform demodulators, e.g. fast Fourier transform [FFT] or discrete Fourier transform [DFT] demodulators (H04L27/26524 takes precedence)}	H04L27/265, H04L27/2651, H04L27/26522, H04L27/26524, H04L27/26526
N	H04L27/2651	6	{Modification of fast Fourier transform [FFT] or discrete Fourier transform [DFT] demodulators for performance improvement}	
U	H04L27/2652	6	{with polyphase implementation}	
N	H04L27/26522	6	{using partial FFTs}	
N	H04L27/26524	5	{Fast Fourier transform [FFT] or discrete Fourier transform [DFT] demodulators in combination with other circuits for demodulation}	

Type*	Symbol	Indent Level Number of dots (e.g. 0, 1, 2)	Title "CPC only" text should normally be enclosed in {curly brackets}**	Transferred to#
N	H04L27/26526	6	{with inverse FFT [IFFT] or inverse DFT [IDFT] demodulators, e.g. standard single-carrier frequency-division multiple access [SC-FDMA] receiver or DFT spread orthogonal frequency division multiplexing [DFT-SOFDM]}	
U	H04L27/2653	5	{with direct demodulation of individual subcarriers}	
N	H04L27/26532	5	{Demodulators using other transforms, e.g. discrete cosine transforms, Orthogonal Time Frequency and Space [OTFS] or hermetic transforms}	
N	H04L27/26534	5	{Pulse-shaped multi-carrier, i.e. not using rectangular window}	
N	H04L27/26536	6	{Filtering over the entire frequency band, e.g. filtered orthogonal frequency division multiplexing [OFDM]}	
N	H04L27/26538	6	{Filtering per subband or per resource block, e.g. universal filtered multicarrier [UFMC] or generalized frequency division multiplexing [GFDM]}	
N	H04L27/2654	6	{Filtering per subcarrier, e.g. filterbank multicarrier [FBMC]}	
N	H04L27/26542	5	{Wavelet transform demodulators (wavelet-division H04L5/0008)}	
N	H04L27/26544	5	{Demodulators for signals generated by symbol repetition (synchronisation arrangements H04L27/2655)}	
N	H04L27/26546	5	{with oversampling}	
U	H04L27/2655	4	{Synchronisation arrangements}	
M	H04L27/2656	5	{Frame synchronisation, e.g. packet synchronisation, time division duplex [TDD] switching point detection or subframe synchronisation}	
M	H04L27/2675	7	{Pilot or known symbols}	
C	H04L27/2681	6	{characterised by constraints}	H04L27/2681, H04L27/26885
U	H04L27/2688	7	{Resistance to perturbation, e.g. noise, interference or fading}	

Type*	Symbol	Indent Level Number of dots (e.g. 0, 1, 2)	Title "CPC only" text should normally be enclosed in {curly brackets}**	Transferred to#
N	H04L27/26885	7	{Adaptation to rapid radio propagation changes, e.g. due to velocity}	
M	H04L27/2691	6	{involving interference determination or cancellation}	
M	H04L27/2695	6	{with channel estimation, e.g. determination of delay spread, derivative or peak tracking (channel estimation H04L25/0202)}	

*N = new entries where reclassification into entries is involved; C = entries with modified file scope where reclassification of documents from the entries is involved; Q = new entries which are firstly populated with documents via administrative transfers from deleted (D) entries. Afterwards, the transferred documents into the Q entry will either stay or be moved to more appropriate entries, as determined by intellectual reclassification; T= existing entries with enlarged file scope, which receive documents from C or D entries, e.g. when a limiting reference is removed from the entry title; M = entries with no change to the file scope (no reclassification); D = deleted entries; F = frozen entries will be deleted once reclassification of documents from the entries is completed; U = entries that are unchanged.

NOTES:
- **No {curly brackets} are used for titles in CPC only subclasses, e.g. C12Y, A23Y; 2000 series symbol titles of groups found at the end of schemes (orthogonal codes); or the Y section titles. The {curly brackets} are used for 2000 series symbol titles found interspersed throughout the main trunk schemes (breakdown codes).
- U groups: it is obligatory to display the required "anchor" symbol (U group), i.e. the entry immediately preceding a new group or an array of new groups to be created (in case new groups are not clearly subgroups of C-type groups).Always include the symbol, indent level and title of the U group in the table above.
- All entry types should be included in the scheme changes table above for better understanding of the overall scheme change picture. Symbol, indent level, and title are required for all types.
- "Transferred to" column must be completed for all C, D, F, and Q type entries. F groups will be deleted once reclassification is completed.
- When multiple symbols are included in the "Transferred to" column, avoid using ranges of symbols in order to be as precise as possible.
- For administrative transfer of documents, the following text should be used: "< administrative transfer to XX>", "<administrative transfer to XX and YY simultaneously>", or "<administrative transfer to XX, YY ...and ZZ simultaneously>" when administrative transfer of the same documents is to more than one place.
- Administrative transfer to main trunk groups is assumed to be the source allocation type, unless otherwise indicated.
- Administrative transfer to 2000/Y series groups is assumed to be "additional information".
- If needed, instructions for allocation type should be indicated within the angle brackets using the abbreviations "ADD" or "INV": <administrative transfer to XX ADD> , <administrative transfer to XX INV>, or < administrative transfer to XX ADD, YY INV, ... and ZZ ADD simultaneously>.
- In certain situations, the "D" entries of 2000-series or Y-series groups may not require a destination ("Transferred to") symbol, however it is required to specify "<no transfer>" in the "Transferred to" column for such cases.
- For finalisation projects, the deleted "F" symbols should have <no transfer> in the "Transferred to" column.
- For more details about the types of scheme change, see CPC Guide.

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B. New, Modified or Deleted Warning(s)

SUBCLASS H04L – TRANSMISSION OF DIGITAL INFORMATION

Type*	Location	Old Warning	New/Modified Warning
N	H04L5/0044		Groups H04L5/0044 and H04L5/0046 are incomplete pending reclassification of documents from group H04L27/2608. Group H04L27/2608, H04L5/0044 and H04L5/0046 should be considered in order to perform a complete search.
N	H04L5/0048		Groups H04L5/0048 - H04L5/0051 are incomplete pending reclassification of documents from group H04L27/2611. All groups listed in this Warning should be considered in order to perform a complete search.
N	H04L27/2602		Group H04L27/2602 is impacted by reclassification into groups H04L27/26025, H04L27/2603, and H04L27/26035. All groups listed in this Warning should be considered in order to perform a complete search.
N	H04L27/26025		Group H04L27/26025 is incomplete pending reclassification of documents from group H04L27/2602. Groups H04L27/2602 and H04L27/26025 should be considered in order to perform a complete search.
N	H04L27/2603		Group H04L27/2603 is incomplete pending reclassification of documents from group H04L27/2602. Groups H04L27/2602 and H04L27/2603should be considered in order to perform a complete search.
N	H04L27/26035		Group H04L27/26035 is incomplete pending reclassification of documents from group H04L27/2602. Groups H04L27/2602 and H04L27/26035 should be considered in order to perform a complete search.
N	H04L27/2608		Group H04L27/2608 is no longer used for the classification of documents as of January 1, 2021. The content of this group is being reclassified into groups H04L5/0044 and H04L5/0046. Groups H04L27/2608, H04L5/0044 and H04L5/0046 should be considered in order to perform a complete search.
N	H04L27/261		Group H04L 27/261 is incomplete pending reclassification of documents from group H04L 27/262. Groups H04L 27/262 and H04L 27/261 should be considered in order to perform a complete search.
N	H04L27/2611		Group H04L 27/2611 is no longer used for the classification of documents as of January 1, 2021. The content of this group is being reclassified into groups H04L 5/0048, H04L 5/005, and H04L 5/0051. All groups listed in this Warning should be considered in order to perform a complete search.
N	H04L27/2613		Group H04L 27/2613 is incomplete pending reclassification of documents from group H04L 27/262. Group H04L 27/2613 is also impacted by reclassification into groups H04L 27/26132, H04L 27/26134, and H04L 27/26136. All groups listed in this Warning should be considered in order to perform a complete search.

Type*	Location	Old Warning	New/Modified Warning
N	H04L27/26132		Group H04L 27/26132 is incomplete pending reclassification of documents from groups H04L 27/2613 and H04L 27/262. Groups H04L 27/2613, H04L 27/262, and H04L 27/26132 should be considered in order to perform a complete search.
N	H04L27/26134		Group H04L 27/26134 is incomplete pending reclassification of documents from groups H04L 27/2613 and H04L 27/262. Groups H04L 27/2613, H04L 27/262, and H04L 27/26134 should be considered in order to perform a complete search.
N	H04L27/26136		Group H04L 27/26136 is incomplete pending reclassification of documents from groups H04L 27/2613 and H04L 27/262. Groups H04L 27/2613, H04L 27/262, and H04L 27/26136 should be considered in order to perform a complete search.
N	H04L27/262		Group H04L 27/262 is impacted by reclassification into groups H04L 27/261, H04L 27/2613, H04L 27/26132, H04L 27/26134, and H04L 27/26136. All groups listed in this Warning should be considered in order to perform a complete search.
N	H04L27/2626		Group H04L 27/2626 is impacted by reclassification into group H04L 27/26265. Groups H04L 27/2626 and H04L 27/26265 should be considered in order to perform a complete search.
N	H04L27/26265		Group H04L 27/26265 is incomplete pending reclassification of documents from group H04L 27/2626. Groups H04L 27/2626 and H04L 27/26265 should be considered in order to perform a complete search.
N	H04L27/2628		Group H04L 27/2628 is impacted by reclassification into groups H04L 27/2634, H04L 27/2636 and H04L 27/26362. All groups listed in this Warning should be considered in order to perform a complete search.
N	H04L27/263		Group H04L 27/263 is impacted by reclassification into groups H04L 27/2634, H04L 27/2636 and H04L 27/26362. All groups listed in this Warning should be considered in order to perform a complete search.
N	H04L27/2631		Group H04L 27/2631 is impacted by reclassification into groups H04L 27/2634, H04L 27/2636 and H04L 27/26362. All groups listed in this Warning should be considered in order to perform a complete search.
N	H04L27/2633		Group H04L 27/2633 is impacted by reclassification into groups H04L 27/2634, H04L 27/2636 and H04L 27/26362. All groups listed in this Warning should be considered in order to perform a complete search.
N	H04L27/2634		Group H04L 27/2634 is incomplete pending reclassification of documents from group H04L 27/2628, H04L27/263, H04L27/2631 and H04L27/2633. Group H04L 27/2634 is also impacted by reclassification into group H04L 27/26362. All groups listed in this Warning should be considered in order to perform a complete search.
N	H04L27/2636		Group H04L 27/2636 is incomplete pending reclassification of documents from group H04L 27/2628, H04L27/263, H04L27/2631 and H04L27/2633. All groups listed in this Warning should be considered in order to perform a complete search.

Type*	Location	Old Warning	New/Modified Warning
N	H04L27/26362		Group H04L 27/26362 is incomplete pending reclassification of documents from groups H04L 27/2628, H04L27/263, H04L27/2631 and H04L27/2633, and H04L 27/2634. All groups listed in this Warning should be considered in order to perform a complete search.
N	H04L27/264		Group H04L 27/264 is impacted by reclassification into groups H04L 27/26412, H04L 27/26414, and H04L 27/26416. All groups listed in this Warning should be considered in order to perform a complete search.
N	H04L27/26412		Group H04L 27/26412 is incomplete pending reclassification of documents from group H04L 27/264. Groups H04L 27/264 and H04L 27/26412 should be considered in order to perform a complete search.
N	H04L27/26414		Group H04L 27/26414 is incomplete pending reclassification of documents from group H04L 27/264. Groups H04L 27/264 and H04L 27/26414 should be considered in order to perform a complete search.
N	H04L27/26416		Group H04L 27/26416 is incomplete pending reclassification of documents from group H04L 27/264. Groups H04L 27/264 and H04L 27/26416 should be considered in order to perform a complete search.
N	H04L27/2649		Group H04L 27/2649 is impacted by reclassification into groups H04L 27/26524, H04L 27/26526, H04L 27/26532, H04L 27/26534, H04L 27/26536, H04L 27/26538, H04L 27/2654, H04L 27/26542, H04L 27/26544, and H04L 27/26546. All groups listed in this Warning should be considered in order to perform a complete search.
N	H04L27/265		Group H04L 27/265 is impacted by reclassification into groups H04L 27/2651, H04L 27/26522, H04L 27/26524, and H04L 27/26526. All groups listed in this Warning should be considered in order to perform a complete search.
N	H04L27/2651		Group H04L 27/2651 is incomplete pending reclassification of documents from group H04L 27/265. Groups H04L 27/265 and H04L 27/2651 should be considered in order to perform a complete search.
N	H04L27/26522		Group H04L 27/26522 is incomplete pending reclassification of documents from group H04L 27/265. Groups H04L 27/265 and H04L 27/26522 should be considered in order to perform a complete search.
N	H04L27/26524		Groups H04L 27/26524 and H04L 27/26526 are incomplete pending reclassification of documents from group H04L 27/2649 and H04L 27/265. All groups listed in this Warning should be considered in order to perform a complete search.
N	H04L27/26532		Group H04L 27/26532 is incomplete pending reclassification of documents from group H04L 27/2649. Groups H04L 27/2649 and H04L 27/26532 should be considered in order to perform a complete search.
N	H04L27/26534		Groups H04L 27/26534-H04L 27/2654 are incomplete pending reclassification of documents from group H04L 27/2649. All groups listed in this Warning should be considered in order to perform a complete search.

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Type*	Location	Old Warning	New/Modified Warning
N	H04L27/26542		Group H04L 27/26542 is incomplete pending reclassification of documents from group H04L 27/2649. Groups H04L 27/2649 and H04L 27/26542 should be considered in order to perform a complete search.
N	H04L27/26544		Group H04L 27/26544 is incomplete pending reclassification of documents from group H04L 27/2649. Groups H04L 27/2649 and H04L 27/26544 should be considered in order to perform a complete search.
N	H04L27/26546		Group H04L 27/26546 is incomplete pending reclassification of documents from group H04L 27/2649. Groups H04L 27/2649 and H04L 27/26546 should be considered in order to perform a complete search.
N	H04L27/2681		Group H04L 27/2681 is impacted by reclassification into group H04L 27/26885. Groups H04L 27/2681 and H04L 27/26885 should be considered in order to perform a complete search.
N	H04L27/26885		Group H04L 27/26885 is incomplete pending reclassification of documents from group H04L 27/2681. Groups H04L 27/2681 and H04L 27/26885 should be considered in order to perform a complete search.

*N = new warning, M = modified warning, D = deleted warning

NOTE: The "Location" column only requires the symbol PRIOR to the location of the warning. No further directions such as "before" or "after" are required.

2. A. DEFINITIONS (new)

Insert the following new definitions.

H04L 27/06

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Demodulation of amplitude-modulated pulses	H03K 9/02

H04L 27/12

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Frequency or rate pulse modulation	H03K 7/06

H04L 27/14

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Demodulation of frequency- or rate-modulated pulses	H03K 9/06

H04L 27/20

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Position modulation	H03K 7/04

H04L 27/22

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Demodulation of position-modulated pulses	H03K 9/04

2. B. DEFINITIONS QUICK FIX

Symbol	Location of change (e.g., section title)	Existing reference symbol or text	Action; New symbol; New text
H04L	Informative references	Visual telegraphy G08B, G08C	<u>Delete</u> in the existing "Informative references" table, the following symbol. G08C
H04L 1/0001	Limiting references		<u>Delete</u> in the "Limiting references" table, all of the references <u>except</u> for the following two references (do not delete them). Allocation of payload for multicarrier modulation system H04L 5/0044 Control of transmission power in radio systems H04W 52/04
H04L 1/0001			<u>Insert</u> the following <u>new</u> "Informative References" section. **Informative references** *Attention is drawn to the following places, which may be of interest for search*: Splitting-up the transmission path, e.g. time, frequency etc. H04L 5/0001 Allocating sub-channels of the transmission path H04L 5/003 Negotiation of transmission parameters unrelated to channel quality H04L 5/1438

Symbol	Location of change (e.g., section title)	Existing reference symbol or text	Action; New symbol; New text
			Adaptation of equalizers (attention: Indexing Code) H04L 25/03019, H04L 2025/03535 Transmit line pre-equalization, e.g. precoding, MIMO calibration H04L 25/03343 Multichannel equalizers (attention: Indexing Code) H04L 2025/03426 Adaptation of timing of transmitters in a network H04J 3/06 Mode change for facsimile transmission H04N 1/3333 Network traffic and resource management H04W 28/00 Communication route selection based on channel quality H04W 40/12 Wireless resource allocation H04W 72/04
H04L1/0002	Limiting references		Delete the entire "Limiting references" section.

Symbol	Location of change (e.g., section title)	Existing reference symbol or text	Action; New symbol; New text
H04L1/0002			<u>Insert</u> the following <u>new</u> "Informative References" section. **Informative references** *Attention is drawn to the following places, which may be of interest for search*: Management of data rate of a bus H04L12/4013 Network nodes adapting their rate to physical link properties H04L12/40136 Allocation of payload H04L5/0044 Rate modification H04L47/25 Explicit feedback to the source H04L47/26 Negotiation of communication rate in wireless communication H04W28/22 Power control taking into account the transmission rate H04W52/267
H04L1/0079	Limiting references	Training sequences H04L25/0226, H04L27/2613	<u>Delete</u> from the "Limiting references" table the existing reference shown below. Training sequences H04L25/0226, H04L27/2613
H04L5/00	Limiting references		<u>Delete</u> the entire "Limiting references" section.

Symbol	Location of change (e.g., section title)	Existing reference symbol or text	Action; New symbol; New text
H04L5/00	Informative references		Insert the following new references into the existing "Informative references" table. Spread spectrum techniques in general H04B1/69 Frequency hopping for spread spectrum H04B1/713 Spatial multiplexing for diversity systems (the same signal is transmitted by the different antennas) H04B7/0697 Time division multiple access (TDMA) H04J3/00 Orthogonal CDMA (i.e. using Walsh codes) H04J11/00 Code division multiple access (CDMA) H04J13/00 Code allocation H04J13/16 Wireless communication networks; Local resource management H04W72/00
H04L5/14	Limiting references		Delete the entire Limiting references section.

Symbol	Location of change (e.g., section title)	Existing reference symbol or text	Action; New symbol; New text
H04L5/14			Insert the following new "Informative References" section. **Informative references** *Attention is drawn to the following places, which may be of interest for search*: Repeaters for converting two wires to four wires H04L25/22 Reducing echo effects or singing H04B3/20 Selecting arrangements H04Q3/00
H04L12/4013			Insert the following new Limiting references section. **Limiting references** *This place does not cover*: Systems modifying transmission characteristics according to link quality H04L1/0001
H04L12/4013	Informative references	Systems modifying transmission characteristics according to link quality H04L1/00 Negotiation of transmission parameters of transmission speed prior to communication H04L5/1446 Adaptive data allocation for multicarrier modulation H04L27/2608	Replace the three existing references in the "Informative references" table with the following two new references. Negotiation of transmission parameters of transmission speed prior to communication H04L5/1446 Allocation of payload H04L5/0044

Symbol	Location of change (e.g., section title)	Existing reference symbol or text	Action; New symbol; New text
H04L27/00	Limiting references		Delete the following six references from the "Limiting references" table. Block-coded modulation H04L1/0058 Pulse width modulation H04L25/4902 Pulse position modulation H04L25/4902 Pulse amplitude modulation H04L25/4917 Delta modulation H03M3/02 Details on optical domain processing H04B10/516
H04L27/00	Informative references		Insert the following references into the existing "Informative references" table. Block-coded modulation H04L1/0058 Pulse width modulation; Pulse position modulation H04L25/4902 Pulse amplitude modulation H04L25/4917 Pulse Amplitude modulation, i.e. PAM H03K7/02 Delta modulation H03M3/02 Details on optical domain processing H04B10/516

Symbol	Location of change (e.g., section title)	Existing reference symbol or text	Action; New symbol; New text
H04L27/00	Special rules of classification		<u>Delete</u> the <u>entire</u> Special rules of classification section.
H04L27/26	Limiting references	Channel estimation techniques H04L 25/0202

Interference cancellation techniques (Inter Carrier Interference, multiusers)   H04L 25/03006

Pulse shaping   H04L25/03834

Details of Fourier transforms   G06F 17/141

Optical transmitters.   H04B 10/50

Higher Layer (network, routing) techniques   H04W | <u>Delete</u> the following references from the <u>existing</u> "Limiting references" table.

Channel estimation techniques   H04L 25/0202

Interference cancellation techniques (Inter Carrier Interference, multiusers)   H04L 25/03006
Pulse shaping   H04L 25/03834
Details of Fourier transforms   G06F 17/141
Optical transmitters.   H04B 10/50
Higher Layer (network, routing) techniques   H04W |
| H04L27/26 | Limiting references | | <u>Insert</u> in the <u>existing</u> "Limiting" references" table the following new reference.

Carrier systems   H04L27/32 |
| H04L27/26 | | | <u>Insert</u> the following <u>new</u> "Informative References" section.

Informative references
Attention is drawn to the following places, which may be of interest for search:

Channel estimation techniques   H04L25/0202 |

Symbol	Location of change (e.g., section title)	Existing reference symbol or text	Action; New symbol; New text
			Interference cancellation techniques (Inter Carrier Interference, multiusers) H04L25/03006 Pulse shaping H04L25/03834 Details of Fourier transforms G06F17/141 Optical transmitters H04B10/50 Higher Layer (network, routing) techniques H04W
H04L27/26	Special rules of classification		<u>Delete</u> the entire "Special rules of classification" section.
H04L27/2605	Informative references	Delay profiles H04L25/0212, H04B17/364	<u>Delete</u> in the "Informative references" table the following symbol. H04L25/0212
H04L27/2605	Informative references		<u>Insert</u> in the "Informative references" table the following <u>new</u> reference. Details of impulse response H04L25/0212
H04L27/2608	Definition		<u>Delete</u> the entire Definition.
H04L27/261	Definition		<u>Delete</u> the entire Definition.
H04L27/2611	Definition		<u>Delete</u> the entire Definition.
H04L27/2613	Informative references	Linked to code properties H04J13/00 CAZAC sequences H04J13/0055	<u>Insert</u> in the "Informative references" table, the following <u>new</u> reference.

Symbol	Location of change (e.g., section title)	Existing reference symbol or text	Action; New symbol; New text
			Sounding signals for channel estimation H04L25/0226
H04L27/262	Definition		<u>Delete</u> the entire Definition.
H04L27/2626	Definition statement		<u>Delete</u> in the "Definition statement" section, the following text located below the figure. From US2007153673
H04L27/2628	Limiting references	General DFT and FFT computation methods and devices G06F17/141	<u>Replace</u> the existing reference in the "Limiting references" table with the following reference. Inverse Fourier transform modulators or inverse discrete Fourier transform modulators H04L27/2634
H04L27/263	Definition		<u>Delete</u> the entire Definition.
H04L27/2634	Limiting references		<u>Delete</u> the <u>entire</u> "Limiting references" section.
H04L27/2634	Informative references		<u>Insert</u> in the existing "Informative references" table the following new reference. DFT and FFT computation methods and devices in general G06F17/141
H04L27/264	Definition	**References** ***Limiting references*** *This place does not cover:* Loss of orthogonality between the carriers due to the use of synthesis and analysis filter banks instead of the rectangular pulse of OFDM. Advantages: More	<u>Replace</u> the entire existing "Limiting references" section with the following "Definition statement" section. **Definition Statement** *This place covers:* Loss of orthogonality between the carriers due to the use of

Symbol	Location of change (e.g., section title)	Existing reference symbol or text	Action; New symbol; New text
		freedom for the choice of pulses which can be more confined in time and frequency. No guard interval needed. Often combined with the use of higher density of basis functions (twice if only orthogonality in real domain should be ensured) like OQAM scheme.	synthesis and analysis filter banks instead of the rectangular pulse of OFDM. Advantages: More freedom for the choice of pulses which can be more confined in time and frequency. No guard interval needed. Often combined with the use of higher density of basis functions (twice if only orthogonality in real domain should be ensured) like OQAM scheme.
H04L27/264			Insert the following new "Informative References" section. **Informative references** *Attention is drawn to the following places, which may be of interest for search*: Sounding signals for channel estimation H04L25/03834
H04L27/2642	Limiting references	Wavelet transforms per se H04L27/0004	Delete the following reference from the "Limiting references" table. Wavelet transforms per se H04L27/0004
H04L27/2642	Informative references		Insert the following new "Informative references" section. **Informative references** *Attention is drawn to the following places, which may be of interest for search*: Wavelet transforms per se

Symbol	Location of change (e.g., section title)	Existing reference symbol or text	Action; New symbol; New text
			H04L27/0004
H04L27/2646	Limiting references	Timing Advance H04W56/0005, H04W56/0045	Delete the entire "Limiting references" section.
H04L27/2646			Insert the following new "Informative references" section. **Informative references** *Attention is drawn to the following places, which may be of interest for search*: Timing Advance H04W56/0005, H04W56/0045
H04L27/2647	Limiting references	Equalisation H04L25/03006, H04L27/01	Delete from the "Limiting references" table the following symbol. H04L25/03006
H04L27/2647			Insert the following new "Informative references" section. **Informative references** *Attention is drawn to the following places, which may be of interest for search*: Arrangements for removing intersymbol interference H04L25/03006
H04L27/2655	Relationships with other classification places		Delete the entire "Relationships with other classification places" section.

Symbol	Location of change (e.g., section title)	Existing reference symbol or text	Action; New symbol; New text
H04L27/2655			<u>Insert</u> the following <u>new</u> "Informative references" section. **Informative references** *Attention is drawn to the following places, which may be of interest for search*: Determination of the cell ID (cell search) H04J 11/0069 Carrier Synchronisation not specific to multicarrier systems H04L 27/0014 Synchronisation at the physical level not specific to multicarrier systems H04L 7/00 Synchronisation protocols at higher layers H04W 56/00
H04L27/2675	Limiting references		<u>Delete</u> the entire "Limiting references" section.
H04L27/2675	Informative references		<u>Insert</u> in the "Informative references" table the following <u>two</u> new references. Allocation of pilot signals H04L5/0048 Cell search in orthogonal multiplex systems H04J11/0069
H04L27/2691	Relationships with other classification places		<u>Delete</u> the entire "Relationships with other classification places" section.

Symbol	Location of change (e.g., section title)	Existing reference symbol or text	Action; New symbol; New text

H04L27/2691			<u>Insert</u> the following <u>new</u> "Informative references" section.
			
			Informative references
			Attention is drawn to the following places, which may be of interest for search:
			
			Interference in receivers
			    H04B 1/10
			
			Further interference aspects at the receiver (EMI)
			    H04B 15/00
			
			Interference due to the multiplexing of users (inter-users, inter-cell, adjacent channel) H04J 11/0023
			
			Inter Symbol Interference removed in Equalizers
			    H04L 25/03006

H04L27/2695	Limiting references	Measuring or estimating channel quality parameters H04B17/309	<u>Delete</u> from the "Limiting references" table, the following row. Measuring or estimating channel quality parameters H04B17/309
H04L27/2695			<u>Insert</u> the following <u>new</u> "Informative references" section. **Informative references** *Attention is drawn to the following places, which may be of interest for search*: Measuring or estimating channel quality parameters H04B17/309

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Symbol	Location of change (e.g., section title)	Existing reference symbol or text	Action; New symbol; New text
H04L27/2698	Limiting references		<u>Delete</u> the entire "Limiting references" section.
H04L27/2698	Special rules of classification		<u>Delete</u> the entire "Special rules of classification" section.

NOTES:
- The table above is used for corrections or modifications to existing definitions, e.g. delete an entire definition or part thereof; propose new wording or modify wording of a section, change the symbol the definition is associated with, change or delete a reference symbol, etc.
- Do not delete (F) symbol definitions.

3. REVISION CONCORDANCE LIST (RCL)

Type*	From CPC Symbol (existing)	To CPC Symbol(s)
C	H04L 27/2602	H04L 27/2602, H04L 27/26025, H04L 27/2603, H04L 27/26035
F	H04L 27/2608	H04L 5/0044, H04L 5/0046
F	H04L 27/2611	H04L 5/0048, H04L 5/005, H04L 5/0051
C	H04L 27/2613	H04L 27/2613, H04L 27/26132, H04L 27/26134, H04L 27/26136
C	H04L 27/262	H04L 27/262, H04L 27/261, H04L 27/2613, H04L 27/26132, H04L 27/26134, H04L 27/26136
C	H04L 27/2626	H04L 27/2626, H04L 27/26265
C	H04L 27/2628	H04L 27/2628, H04L 27/2634, H04L 27/2636, H04L 27/26362
C	H04L 27/263	H04L 27/263, H04L 27/2634, H04L 27/2636, H04L 27/26362
C	H04L 27/2631	H04L 27/2631, H04L 27/2634, H04L 27/2636, H04L 27/26362
C	H04L 27/2633	H04L 27/2633, H04L 27/2634, H04L 27/2636, H04L 27/26362
C	H04L 27/2634	H04L 27/2634, H04L 27/26362
C	H04L 27/264	H04L 27/264, H04L 27/26412, H04L 27/26414, H04L 27/26416
C	H04L 27/2649	H04L 27/2649, H04L 27/26524, H04L 27/26526, H04L 27/26532, H04L 27/26534, H04L 27/26536, H04L 27/26538, H04L 27/2654, H04L 27/26542, H04L 27/26544, H04L 27/26546
C	H04L 27/265	H04L 27/265, H04L 27/2651, H04L 27/26522, H04L 27/26524, H04L 27/26526
C	H04L 27/2681	H04L 27/2681, H04L 27/26885

* C = entries with modified file scope where reclassification of documents from the entries is involved; Q = new entries which are firstly populated with documents via administrative transfers from deleted (D) entries. Afterwards, the transferred documents into the Q entry will either stay or be moved to more appropriate entries, as determined by intellectual reclassification; D = deleted entries; F = frozen entries will be deleted once reclassification of documents from the entries is completed.

NOTES:
*   <u>Only</u> C, D, F, and Q type entries are included in the table above.
*   When multiple symbols are included in the "To" column, do not use ranges of symbols.
*   For administrative transfer of documents, the following text should be used: "< administrative transfer to XX>", "<administrative transfer to XX and YY simultaneously>", or "<administrative transfer to XX, YY ...and ZZ simultaneously>" when administrative transfer of the same documents is to more than one place.
*   Administrative transfer to main trunk groups is assumed to be the source allocation type, unless otherwise indicated.
*   Administrative transfer to 2000/Y series groups is assumed to be "additional information".
*   If needed, instructions for allocation type should be indicated within the angle brackets using the abbreviations "ADD" or "INV": <administrative transfer to XX ADD>, <administrative transfer to XX INV>, or < administrative transfer to XX ADD, YY INV, ... and ZZ ADD simultaneously>.
*   In certain situations, the "D" entries of 2000-series or Y-series groups may not require a destination ("To") symbol, however it is required to specify "<no transfer>" in the "To" column for such cases.
*   RCL is not needed for finalisation projects.

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4. CHANGES TO THE CPC-TO-IPC CONCORDANCE LIST (CICL)

CPC	**IPC**	**Action***
H04L27/26025	H04L27/26	NEW
H04L27/2603	H04L27/26	NEW
H04L27/26035	H04L27/26	NEW
H04L27/26132	H04L27/26	NEW
H04L27/26134	H04L27/26	NEW
H04L27/26136	H04L27/26	NEW
H04L27/26265	H04L27/26	NEW
H04L27/26362	H04L27/26	NEW
H04L27/26412	H04L27/26	NEW
H04L27/26414	H04L27/26	NEW
H04L27/26416	H04L27/26	NEW
H04L27/2651	H04L27/26	NEW
H04L27/26522	H04L27/26	NEW
H04L27/26524	H04L27/26	NEW
H04L27/26526	H04L27/26	NEW
H04L27/26532	H04L27/26	NEW
H04L27/26534	H04L27/26	NEW
H04L27/26536	H04L27/26	NEW
H04L27/26538	H04L27/26	NEW
H04L27/2654	H04L27/26	NEW
H04L27/26542	H04L27/26	NEW
H04L27/26544	H04L27/26	NEW
H04L27/26546	H04L27/26	NEW
H04L27/26885	H04L27/26	NEW

*Action column:
- For an (N) or (Q) entry, provide an IPC symbol and complete the Action column with "NEW."
- For an existing CPC main trunk entry or indexing entry where the existing IPC symbol needs to be changed, provide an updated IPC symbol and complete the Action column with "UPDATED."
- For a (D) CPC entry or indexing entry complete the Action column with "DELETE." IPC symbol does not need to be included in the IPC column.
- For an (N) 2000 series CPC entry which is positioned within the main trunk scheme (breakdown code) provide an IPC symbol and complete the action column with "NEW".
- For an (N) 2000 series CPC entry positioned at the end of the CPC scheme (orthogonal code), with no IPC equivalent, complete the IPC column with "CPCONLY" and complete the action column with "NEW".

NOTES:
- F symbols are not included in the CICL table above.
- T and M symbols are not included in the CICL table above unless a change to the existing IPC is desired.