LTE Essential Patents Data 2Q 2012

LTE Essential Patent Candidates Data 2Q 2012 is a product of TechIPm, LLC (www.techipm.com) based on LTE patents research for US market leader among LTE UE (cellular phones, smart phones, PDAs, mobile PCs, etc.) and base station (eNB) product manufactures. LTE Essential Patent Candidates Data provides assignee, patent (publication) number, prosecution status for published applications, related 3GPP TS36 specifications, and the key technology components for an implementation of the products.

Methodology

1. Search for LTE related patents.

- Search the current USPTO database for published and issued patents as of 2Q 2012
- Search the ETSI database for LTE standard specifications
- 3GPP Release 8 for technical specifications (Release 10 for carrier aggregation specifications) for the LTE RAN (Radio Access Network):
- PHY: TS 36.211, 212, 213
- L2/L3 Protocols: TS 36.321, 322, 323, 331, 304
- * LTE RAN products: LTE UE (cellular phones, smart phones, PDAs, mobile PCs, etc.) and base station (eNB) baseband modem and radio SW products

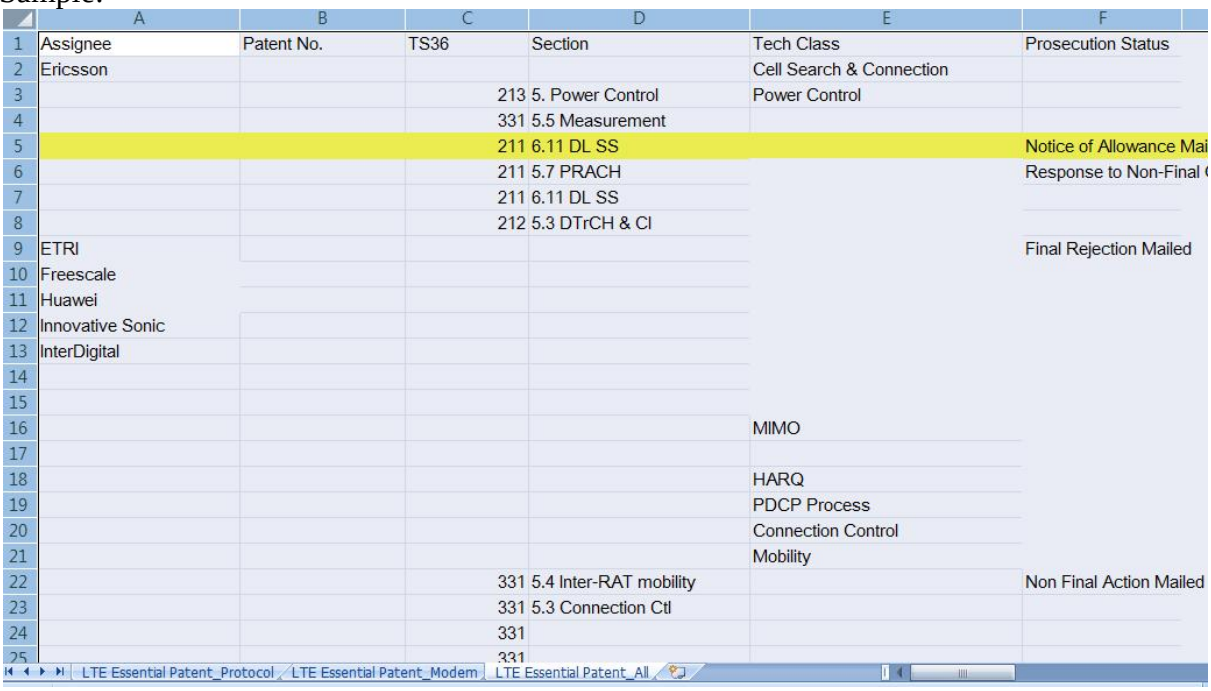
2. Review the searched patents for essential patent candidates.

- Review the patents in portfolio
- Categorize the identified patents through the evaluation process by technology in the standard specifications
  Key technology components for an implementation of the LTE baseband modem: OFDM/OFDMA (Frame & Slot Structure, Modulation), SC-FDMA (PUSCH, PUCCH), Channel Estimation (UL RS, DL RS, CQI), Cell Search & Connection (PRACH, DL SS), MIMO (Transmit Diversity, Spatial Multiplexing), Resource Management (Resource Allocation, Scheduling), Coding (Convolution, Turbo), Power Control, HARQ, and Carrier Aggregation.
  Key technology components for an implementation of the LTE radio protocol: Random Access, HARQ, Channel Prioritization, Scheduling (Dynamic, SPS), Protocol Format (PDUs, SDUs), Radio Link Control (ARQ), PDCP Process (SRB, DRB, ROHC), Security (Ciphering, Integrity), System Information, Connection Control, Mobility (Handover, Inter-RAT, Measurements), and Carrier Aggregation.
- Evaluate the level of essentiality
  Essentiality Index (EI):
  E1 : Patent disclosure is weakly related to LTE technical specifications
  E2 : Patent disclosure is partially related to LTE technical specifications
  E3 : Patent disclosure is related to LTE technical specifications overall
  E4 : Patent disclosure is strongly related to LTE technical specifications
  *To be a potential essential patent candidate, EI should be E3 or E4.

Deliverables

MS excel file for essential patent candidates (patent number, standard specification section number, technology category, and prosecution status for essentiality level E3 or E4).

Sample:



	A	B	C	D	E	F
1	Assignee	Patent No.	TS36	Section	Tech Class	Prosecution Status
2	Ericsson				Cell Search & Connection	
3			213	5. Power Control	Power Control	
4			331	5.5 Measurement		
5			211	6.11 DL SS		Notice of Allowance Mai
6			211	5.7 PRACH		Response to Non-Final
7			211	6.11 DL SS		
8			212	5.3 DTrCH & CI		
9	ETRI					Final Rejection Mailed
10	Freescale					
11	Huawei					
12	Innovative Sonic					
13	InterDigital					
14						
15						
16					MIMO	
17						
18					HARQ	
19					PDCP Process	
20					Connection Control	
21					Mobility	
22			331	5.4 Inter-RAT mobility		Non Final Action Mailed
23			331	5.3 Connection Ctl		
24			331			
25			331			

LTE Essential Patent_Protocol | LTE Essential Patent_Modem | LTE Essential Patent_All

For more information, please contact Alex Lee at alexglee@techipm.com .