



RP-161719  
**Motivation for new WI: High power UE for  
LTE band 42 (power class 2)**  
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# Justification

- In 3GPP, the study of high power UE (HPUE) operation, i.e. power class 2, for TDD Band 41 has been completed under a SI (RP-160092), motivated by significant benefits in cell coverage and cell edge user throughput that are needed for and can be achieved for TDD networks with higher carrier frequency. During the study period the issues related to technical feasibility and regulations were addressed and a follow-on WI is ongoing (RP-161221).
- TDD Band 42, i.e. 3400 MHz - 3600 MHz, has been defined in 3GPP for several years and there are commercial deployments of this band in both Region 1 and Region 3. Given that it is a TDD band and the frequency is even higher than that of band 41, the need for power class 2 UEs is stronger to realize the desired benefits mentioned above. It is also important to know that the Band 41 HPUE WI nears its completion and will serve as a good reference for specifying the requirements for Band 42 HPUE.

# Objective

- Specify the RF requirements for Power Class 2 UE that are applicable to Band 42
  - The requirements only cover single carrier UL operation for Band 42.
  - Compatibility of Band 42 networks with the maximum power of 23dBm is to be considered.
  - Release independent issue is to be considered for Band 42 HPUE.  
If needed, RAN2 to extend the signalling enhancement created for Band 41 HPUE to Band 42.
- Specify performance requirements to enable single carrier UL operation for Power Class 2 UE that are applicable to Band 42