

KDB	Title	Section	Comment
			Suggestion adding the following into the KDB: 1) Include a table of relevant/referenced/impacted KDBs related to 447498 procedures 2) Include a table summary of the required separation distances for devices vs. configuration/requirements
447498	General RF E	General	
447498	General RF E	General	Suggest changing section headers to conventional 1.x.x.x.x numbering scheme to avoid consuming section references that are 3-5 subsections deep.
447498	General RF E	I	Recommend referencing KDB documents instead of TCB workshop presentations. TCB presentations often lack context or supporting details that are verbalized during meetings. Points should be detailed in formal KDB documents.
447498	General RF E	III C 3	Why are mobile antennas limited to "exact antennas"? Mobile is MPE so compliance should not be an issue providing an appropriate MPE analysis is provided. The basis for the limitation is not clear.
447498	General RF E	III I 3 (i)	What criteria determines if a manufacture know when it must "provide further support to fulfill grantee responsibilities".
			For the following statement "The disclosure requirements for the entire supply chain, including grantees of individual transmitters, host manufacturers and OEM/ODM integrators, and the end users must be fully documented for a transmitter module" 1) Please clarify where must this should be fully a documented. 2) Can this be a confidential attachment as the supply chain may be confidential? 3) Can general information be provided as the circumstances are not necessarily defined at the time of submission or can change at a later date?
447498	General RF E	III I 3 (iii)	
447498	General RF E	III I 5	Is referencing the FCC grant and supporting material considered satisfactory for the distribution of instructions?
447498	General RF E	IV A 2	Should this be time-averaged EIRP, or at least open to ERP or EIRP depending on applicable CFR 47 section for the transmitter?
			SAR scaling is introduced to show compliance. What section or KDB defines that it is acceptable to scale SAR results? This is also referenced in other KDBs. This is great but please clarify what section allows scaling so that OEMs can reference the rule in test reports.
447498	General RF E	IV A 4 (ii)	
447498	General RF E	IV B 2 (i) (b)	How can an OEM control or define what accessories 3rd party manufactures can develop and market for a device?
			Please consider adding a justification process to only test the highest power technology for a given band for a common antenna. SAR is understood to be related to average power and so it is not clear why SAR testing must be completed for all technologies if average transmit power at the antenna feed can be shown to be lower than a mode tested. For example: If a devices supports GSM/GPRS2UL/UMTS/LTE in a given frequency band on a single antenna where GPRS 2UL is the highest average power, why test any of the other modes if the highest SAR results are known to be associated with the highest average power transmitters? This represents a significant test reduction for many devices.
447498	General RF E	IV C	
447498	General RF E	IV C 1 (ii) (c)	Rather than requiring a KDB for OEMs to determine what minimum separation distances is justifiable, can the FCC define criteria so that the justifications are enforced consistently across devices/manufactures.
447498	General RF E	IV D	Is it a correct interpretation that SAR simulation be used for any type of device (tablet, phone, etc.)?
			Does this section imply that the module OEM with the highest power transmitter is responsible if a lower power transmitter makes a change that causes a non-compliance? That is a problem if the first OEM is not aware of the change and should only be held responsible for the defined transmitter configurations.
447498	General RF E	V A 1 (b) (iii)	
447498	General RF E	V A 2 (ii)	Is it permissible to create a generic simul-tx analysis to address a wide variety of transmitters that fall within the defined power/antenna/distance parameters?
			reasonable request for many modules with unclear or limited applications that will be known to require Class II changes to include SAR data. The FCC should also consider revisiting the applicability of the distance of 20cm as the appropriate distance determining if SAR is required for licensed/unlicensed devices operating at frequencies > 700 MHz. In reviewing the ANSI/IEEE C95.1-1992 document and the complimentary document ANSI/IEEE C95.3 (1991), which describes the measurement of potentially hazardous fields, it would appear that the 20cm minimum separation distance was derived for a frequency of 300 MHz and that a minimum separation distance of 2 cm is valid for a frequency of 3000 MHz. This indicates requiring SAR to evaluate all devices with user separation distances <20cm results in a conservative evaluation and MPE could be the appropriate RF exposure evaluation technique for distances <20cm depending on the transmit power and operational frequency. Please see Qualcomm WT Docket Nos. 03-137 Ex Parte filed on August 15, 2005 for more discussion on this topic. If the FCC updates the separation distance where SAR becomes the applicable measurement, many devices currently requiring evaluation with respect to SAR could easily be addressed through a module level MPE report. To be clear, testing/simulation for device held near the body is a reasonable requirement for handsets, tablets, body worn transmitters, or other devices used near the body. Completing SAR testing for devices used at farther distances (>5cm) for typical power levels does not make sense given compliance is assured based on the power and separation distance. Given the diversity of modules, supported frequency bands, and antenna types, SAR testing at the "module" level is a difficult task to achieve with meaningful data. Further discussion with the FCC is required to identify the end goal and flexibility once the testing is completed. If the goal is to simply move the historic 20cm separation distance where SAR testing is required to something much closer, such as 5cm, it may be possible to justify with a generic SAR report that is module independent. The margin will be so great at a distance of 5cm that perhaps this can be used to mitigate concerns of the measurement validity given SAR results for an actual device are dominated by the device specific near field currents. If "module" SAR continues to be an area of interest to the FCC, the OET should consider allowing module OEMs to generate a single test report addressing multiple frequency bands at a defined transmit power level for some types of modules. For example for a connectorized module with onboard RF connectors that use coax to interface to antennas (e.g. mPCIe card), the SAR results will not be technology specific, so it is feasible to have a reference PWB/antenna that completes SAR using a CW as a source in place of the actual module. At this point the test report is essentially showing SAR vs. distance and can be applicable to any technology/device using similar transmit power. Further discussion/analysis on this topic is required.
447498	General RF E	V A 3	
			For modular SAR, if the objective is to provide mechanism to show compliance for devices not used near the body (e.g. >5cm) but still work within 2.1093/2.1091, why not allow numerical analysis to demonstrate compliance at these distances vs. requiring SAR measurement with limited value (e.g. noise floor at 5cm) and are essentially applicable to any transmitter.
447498	General RF E	V A 3	

KDB	Title	Section	Comment
447498	General RF E	V B (2) (iii) (b)	What is a "normal" sized tablet vs. UMPC. 5mm also is different from the flush requirement from KDB616217 section III B. Why is there a difference in external mounted devices vs. a laptop.
447498	General RF E	V C (1)	Does the 30 second overlap requirement extend to power reduction timing requirements? For example, can a proximity sensor respond to max power adjustments every 30 seconds? Or can a device monitor a proximity sensor for 30 seconds to determine if the sensor is in a constant trigger situation before reducing TX power?