



Frequency Range of Radiated Measurements

**TCB Workshop
October 2016**

Joe Dichoso
Laboratory Division
Office of Engineering and Technology
Federal Communications Commission



Frequency Range of Radiated Measurements for composite devices (e.g. intentional radiator within a host (digital device)).

- When determining the frequency range of radiated measurements of a composite device, **all the frequencies in the composite device need to be considered to determine the frequency range for each individual device separately.** Use 15.33(a)(4) for intentional radiators and 15.33(b) for unintentional radiators.
- When testing the intentional radiator, the upper frequency range of investigation, as specified in Section 15.33(a)(4), shall be based on the higher of the
 - the range applicable to the intentional radiator specified in Section 15.33 (a) (1) through (a)(3), or
 - the range applicable to the digital device, as specified in Section 15.33 (b)(1)
- Example 1: For a composite system with a digital device with the highest frequency used of 1 GHz and an intentional radiator operating at 2.4 GHz, the intentional radiator is required to be investigated to the upper frequency of 24 GHz.



Frequency Range of Radiated Measurements for composite devices (e.g. intentional radiator within a host (digital device)).

- When testing the digital device (unintentional radiator), the upper frequency range of investigation in Section 15.33(b)(1), except as otherwise indicated in paragraph (b)(2) or (b)(3) is based on the highest frequency generated and the highest frequency used in the composite device.
- Example 2: For a composite system with a digital device with the highest used of 1 GHz and an intentional radiator operating at 2.4 GHz. The unintentional radiator is required to be investigated to the upper frequency of 12 GHz (5th harmonic of 2.4 GHz).