

802.3cm draft 1.0  
comment 3  
numerical analysis

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# OM3 minimum EMB guidance in IEC

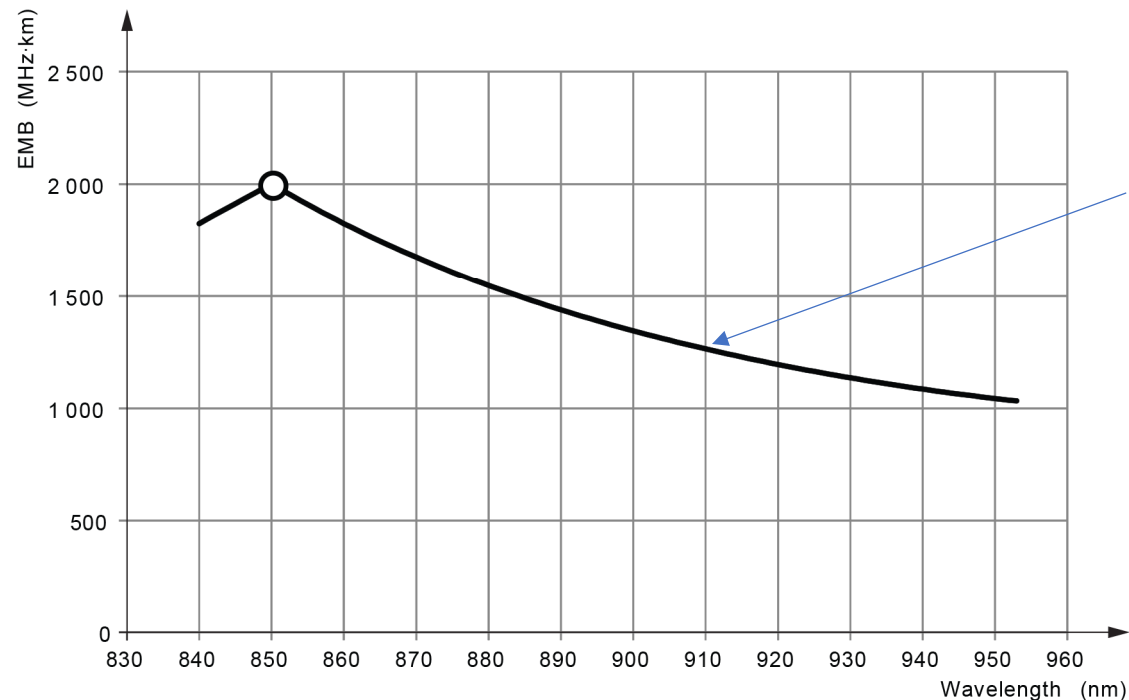
For  $840 \text{ nm} \leq \lambda_c \leq 850 \text{ nm}$

$$\text{EMB} \geq 1826 + (2000 - 1826) \times (\lambda_c - 840) / (850 - 840)$$

For  $850 \text{ nm} \leq \lambda_c \leq 953 \text{ nm}$

$$\text{EMB} \geq 2000 \times (1.0010 - 0.9809x + 0.8073x^2 - 0.4304x^3 + 0.1194x^4)$$

Where  $x = (\lambda_c - 850) / (953 - 850)$



— Estimated lower limit of EMB

○ 850 nm EMB specification

**Estimated minimum wide band EMB versus wavelength for A1-OM3**

# OM4 minimum EMB guidance in IEC

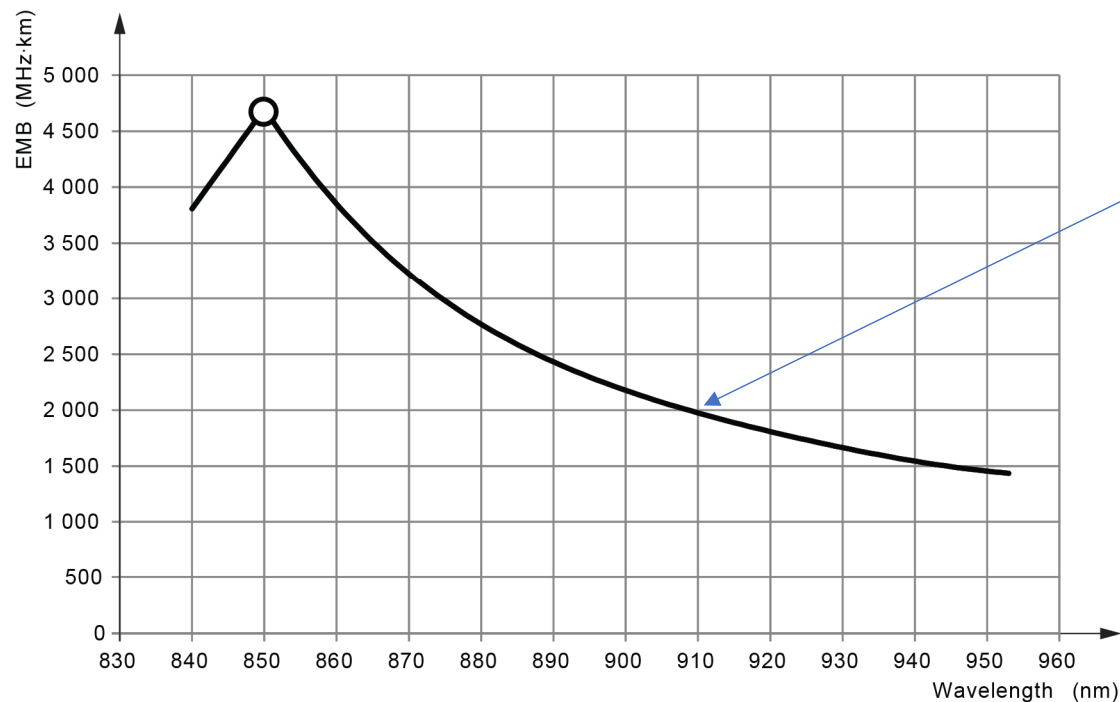
For  $840 \text{ nm} \leq \lambda_c \leq 850 \text{ nm}$

$$\text{EMB} \geq 3840 + (4700 - 3840) \times (\lambda_c - 840) / (850 - 840)$$

For  $850 \text{ nm} \leq \lambda_c \leq 953 \text{ nm}$

$$\text{EMB} \geq 4700 \times (1.0002 - 2.1549x + 03.2700x^2 - 2.7328x^3 + 0.9280x^4)$$

Where  $x = (\lambda_c - 850) / (953 - 850)$



1980 MHz·km  
@  $\lambda_c = 910 \text{ nm}$

— Estimated lower limit of EMB

○ 850 nm EMB specification

**Estimated minimum wide band EMB versus wavelength for A1-OM4**

# OM5 minimum EMB guidance in IEC

For  $840 \text{ nm} \leq \lambda_c \leq 850 \text{ nm}$

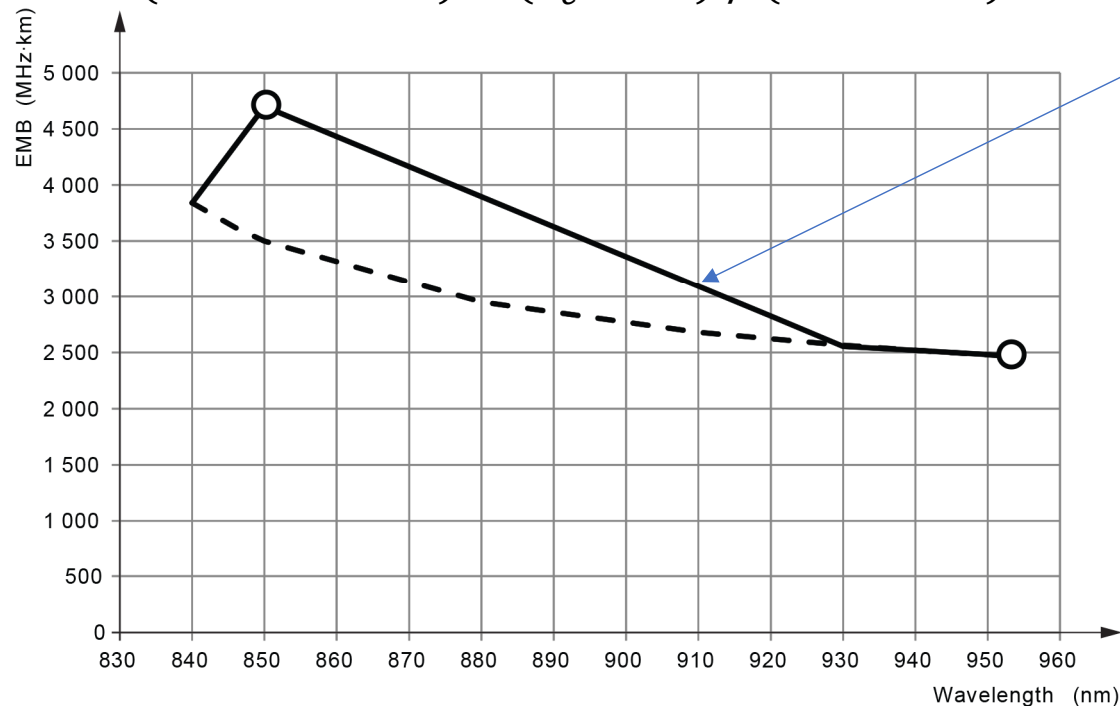
$$\text{EMB} \geq 3\,840 + (4\,700 - 3\,840) \times (\lambda_c - 840) / (850 - 840)$$

For  $850 \text{ nm} \leq \lambda_c \leq 930 \text{ nm}$

$$\text{EMB} \geq 4\,700 + (2\,565 - 4\,700) \times (\lambda_c - 850) / (930 - 850)$$

For  $930 \text{ nm} \leq \lambda_c \leq 953 \text{ nm}$

$$\text{EMB} \geq 2\,565 + (2\,470 - 2\,565) \times (\lambda_c - 930) / (953 - 930)$$



3099 MHz·km  
@  $\lambda_c = 910 \text{ nm}$

--- 32GFC model closure

— Estimated lower limit of EMB

○ 850 nm and 953 nm EMB specification

**Estimated minimum wide band EMB versus wavelength for A1-OM5**