







1

2

GB 3096  
GB 8702  
GB 12348  
HJ 2.1  
HJ 2.3  
HJ 2.4  
HJ 19  
HJ/T 10.2  
HJ/T 10.3  
GY 5054

3

radio and television construction project

electromagnetic radiation environment-sensitive target

near field region

far field region

4

HJ 2.1

A

B



100kW                      0.5km                      >100kW                      1km

1km                      100kW                      0.5km                      >100kW

HJ 2.3

HJ 2.4

500m

4.3.5

- a
- b



			V/m
			A/m
			W/m <sup>2</sup> V/m A/m

a

b

c

d

e

f

HJ/T 10.2

HJ 2.4

GB 3096 GB 12348

HJ 19

7

HJ 2.4

HJ 19

8

2

GY 5054

D

E

HJ/T 10.2

10

- a)
- b)

- a)
- b)

- c)
- d)
- e)

11

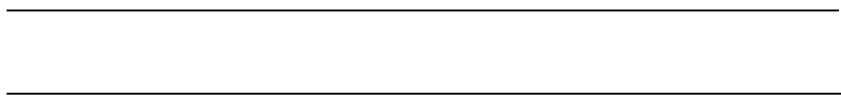


4.4 1

4.5









$$\frac{D}{\lambda} < 1 \quad D$$

 $\lambda$ 

$$\frac{\lambda}{2\pi}$$

 $3\lambda$ 

$$\frac{D}{\lambda} \geq 1$$

$$\frac{\lambda}{2\pi}$$

$$\underline{2D^2}$$

$$E = \frac{245\sqrt{P \cdot \eta \cdot G}}{r} \cdot F(h) \cdot F(\theta, \varphi) \cdot A \quad \text{D1}$$

$E$  — mV/m  
 $P$  — kW  
 $\eta$  — %  
 $G$  —  $G=1$   
 $r$  — km  
 $F(h)$  —  $F(h)=1 \sim 1.43$   
 $F(\theta, \varphi)$  —  $\theta$   $\varphi$   
 $A$  —

$\eta \approx 1$   $F(h) \approx 1.2$   $F(\theta, \varphi) = 1$

$$E = \frac{300\sqrt{P \cdot G}}{r} \cdot A \quad \text{D2}$$

$\eta \approx 1$   $F(h) \approx 1.2$

$$E = \frac{300\sqrt{P \cdot G}}{r} \cdot F(\theta, \varphi) \cdot A \quad \text{D3}$$

$A$

$A$

$$|A| \leq 1 \quad \text{D4}$$

$A$

$\zeta$

$$\zeta = \frac{60\lambda\sigma}{\varepsilon'} \quad \text{D5}$$

$$x = \frac{2\pi r}{\lambda} \frac{\sqrt{(\varepsilon' - 1)^2 + (60\lambda\sigma)^2}}{\varepsilon'^2 + (60\lambda\sigma)^2} \quad \text{D6}$$

$\lambda$  — m

$\sigma$  — S/m

$\varepsilon'$  —

$r$  — km

a)  $\zeta \gg 1$

$A$   $|A|$

$$|A| = \frac{2 + 0.15x}{2 + 0.5x + 0.15x^2} \quad \text{D7}$$

b)  $\zeta \ll 1$

$A$   $|A|$

$$|A| = \frac{1}{x} \quad \text{D8}$$

$A$

$$x = \frac{\pi r}{\lambda} \frac{1}{\sqrt{(\varepsilon' - 1)^2 + (60\lambda\sigma)^2}} \quad \text{D9}$$

$r$  — km

$\lambda$  — m

$\varepsilon'$  —

$\sigma$  — S/m

$A$   $|A|$

$$|A| = \frac{2 + 0.3x}{2 + x + 0.6x^2} \quad \text{D10}$$

$$E = \frac{444\sqrt{P \cdot G}}{r} \cdot F(\theta, \varphi)$$

E1

$E$  —

mV/m

$P$  —

kW

$G$  —

$G_{0.5\lambda} = 1.64$

$r$  —

km

$F(\theta, \varphi)$  —

$\theta$

$\varphi$

