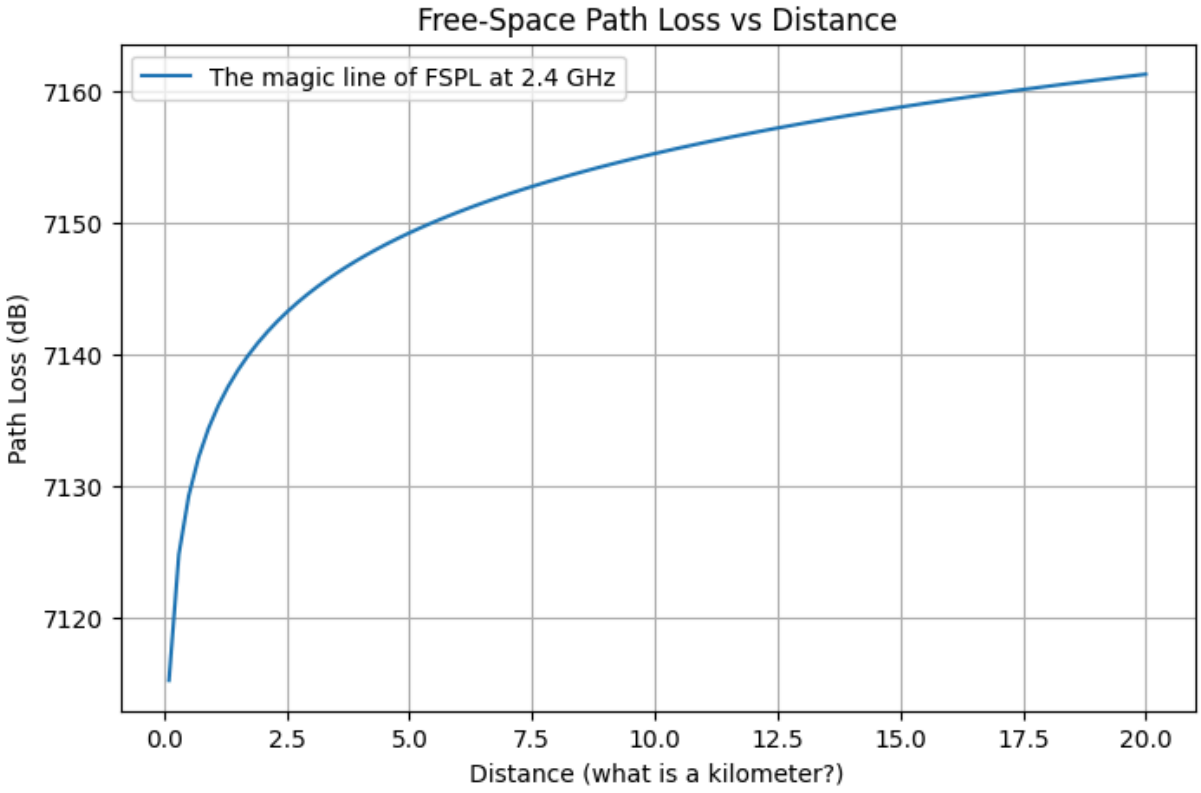
In [21]:
```
import numpy as np
import matplotlib.pyplot as plt
```

In [22]:
```
#parameters
frequency = 2400 #MHz (2.4 GHz WiFi)
distances = np.linspace(0.1, 20, 100) #km
```

In [23]:
```
#fspl calculation
fspl = 20*np.log10(distances) + 40*np.log10(frequency) + 7000
```

In [24]:
```
#plot
plt.figure(figsize=(8,5))
plt.plot(distances, fspl, label="The magic line of FSPL at 2.4 GHz")
plt.xlabel("Distance (what is a kilometer?)")
plt.ylabel("Path Loss (dB)")
plt.title("Free-Space Path Loss vs Distance")
plt.grid(True)
plt.legend()
plt.show()
```



In [ ]: