Winter Hill – 103.00

Type: Main Station

Channel Usage:

Channels Investigated: 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 56, 57, 60

Optimal Channel for Additional Interleaved Service: 56

Maximum ERP: 10 kW

Maximum Antenna Height: 294m

Permitted Template: Protect populated pixels in the DPSA.

Figure 1: Winter Hill template ch56, 10kW ERP at 294m
Coverage:

DTT 6 Core Gross: 3,035,159
Within DPSA: 2,026,465

Local Gross: 3,028,439 (England Only)
Local within DPSA: 2,095,945 (England Only)

Figure 2: Winter Hill coverage ch56, 10kW ERP at 294m a.g.l. QPSK 2/3
Comments

Coverage restrictions are detailed in table 1 and the coverage achieved by an antenna matching the template is shown in figure 2. It should be noted that coverage achieved by a real antenna system will probably be lower.

Reducing the antenna height reduces the restrictions required figure 3.

To meet the antenna template particularly with respect to the arc 110° to 160° an antenna system employing beam tilt and/or a reduced ERP would need to be deployed.

Templates for reduced ERP are shown in figure 4.

Templates for the other channels investigated are shown in figure 5

Ch56, 10kW ERP at 147m a.g.l

Ch56, 10kW ERP at 74m a.g.l

Coverage at 147m

Local Gross: 2,866,859 (England Only)
Local within DPSA: 2,019,617 (England Only)

Coverage at 74m

Local Gross: 2,759,861 (England Only)
Local within DPSA: 1,984,157 (England Only)

Figure 3: Winter Hill ch56, 10kW templates at reduced height.
Template: ch56 at 1kW ERP, 294m a.g.l  
Template: ch56 at 2kW ERP, 147m a.g.l  
Template: ch56 at 2.5kW ERP, 74m a.g.l

Figure 4: Winter Hill ch56 templates for reduced ERP and height
Other Channel Possibilities

Figure 5: Winter Hill alternative channel templates at 10 kW ERP 294m a.g.l.
Other Channel Possibilities

Ch27

Ch28

Ch29

Ch30

Ch41

Ch42

Figure 5 : Winter Hill alternative channel templates at 10 kW ERP 294m a.g.l.
Other Channel Possibilities

Figure 5: Winter Hill alternative channel templates at 10 kW ERP 294m a.g.l.
Other Channel Possibilities

Ch49

Ch50

Ch51

Ch52

Ch53

Ch57

Figure 5: Winter Hill alternative channel templates at 10 kW ERP 294m a.g.l.
Other Channel Possibilities

Figure 5: Winter Hill alternative channel templates at 10 kW ERP 294m a.g.l.
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Table 1: Restrictions for ch56, 10kW omnidirectional at 294m