

**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.

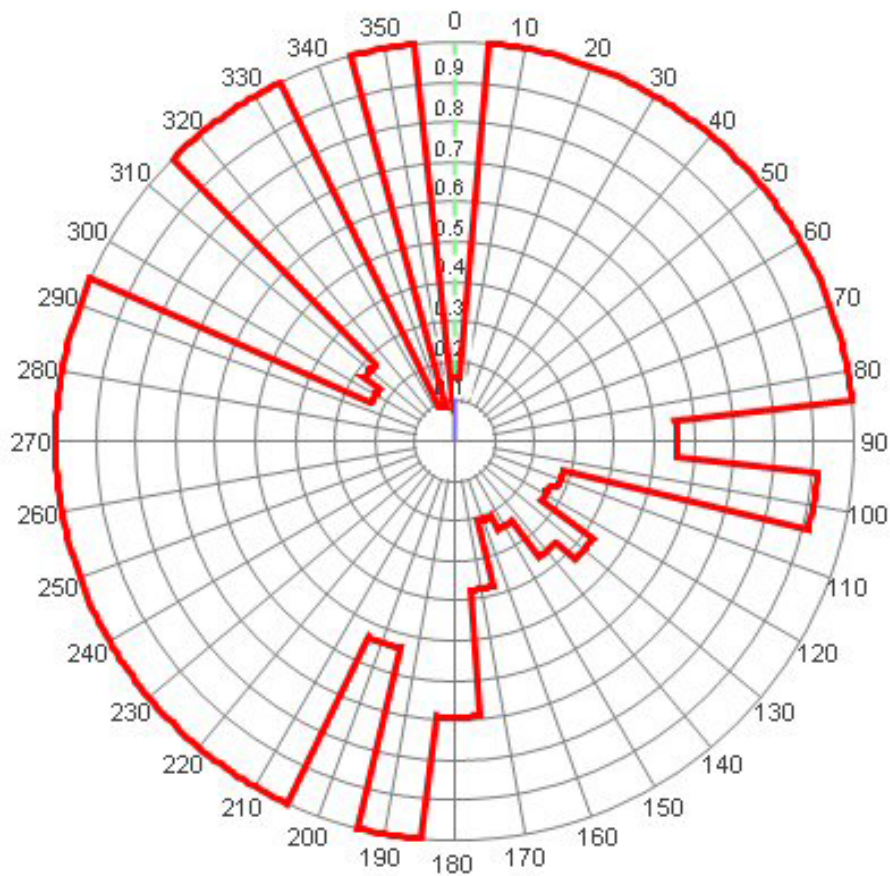
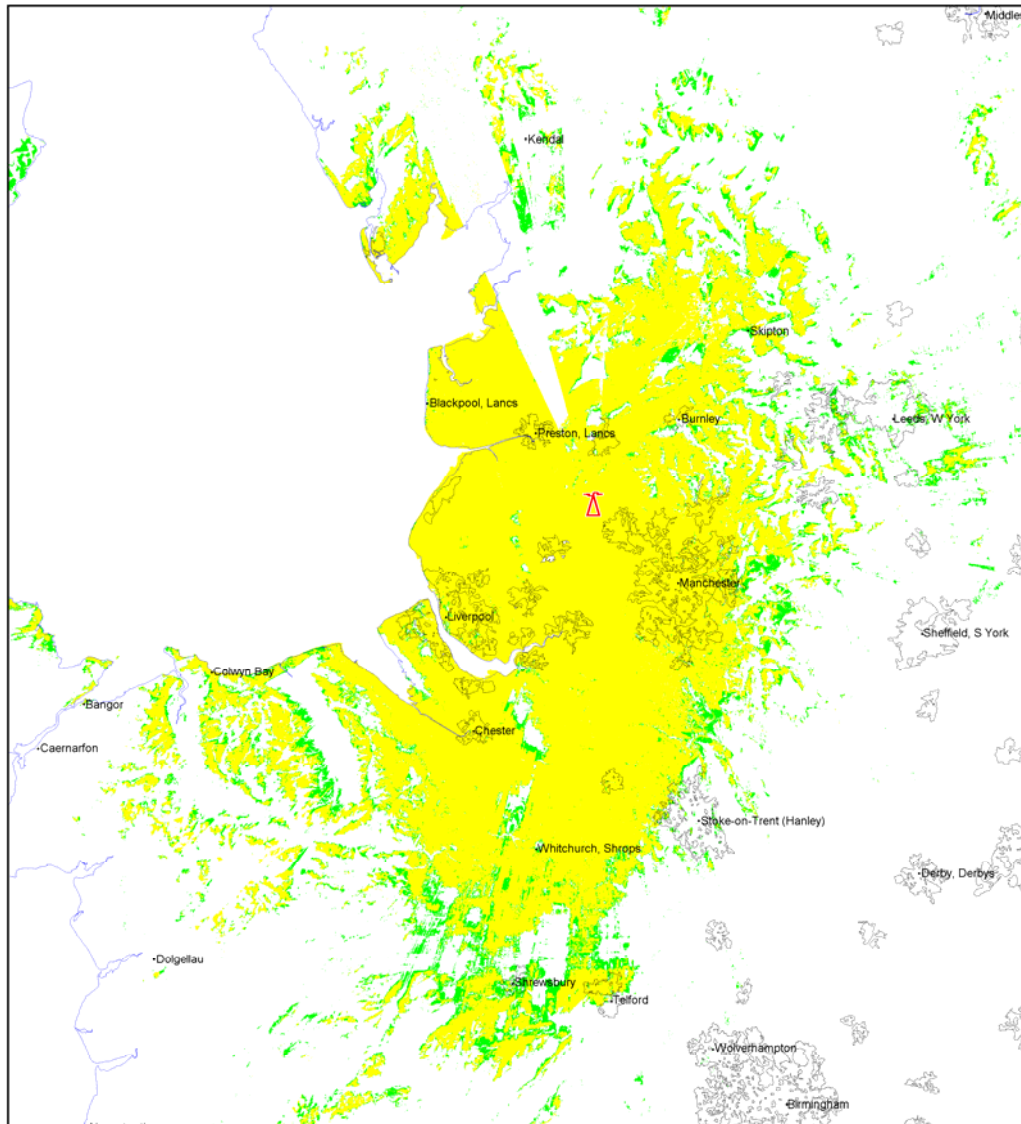


Figure 1 : Winter Hill template ch56, 10kW ERP at 294m

**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)



DTT Local TV Coverage Ch 56	90% Locations and above	70% to 90% Locations	70% Locations and above (Total)
Households Served (England only)	2820905	207534	3028439

This plot shows predicted coverage. Actual coverage may differ.  
1999 The Automobile Association. All rights reserved.  
© National Grid Wireless Group. 2007.

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.

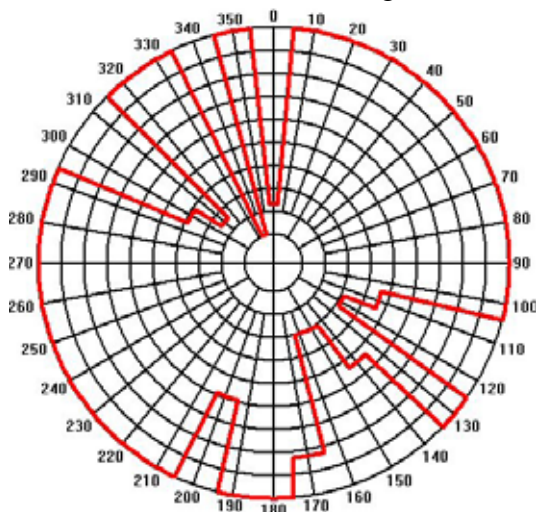
Reducing the antenna height reduces the restrictions required figure 3.

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

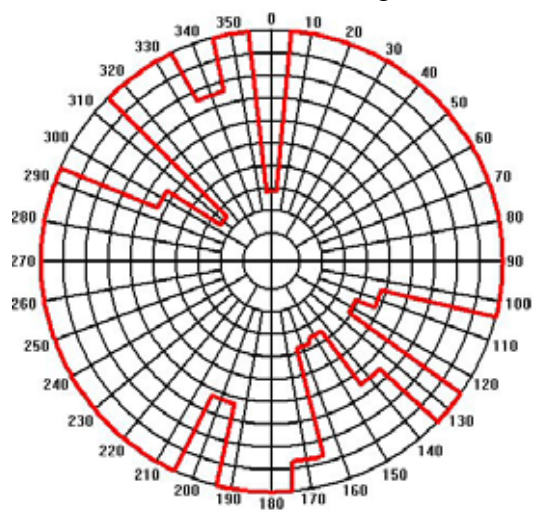
Ch56, 10kW ERP at 147m a.g.l



Coverage at 147m

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

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



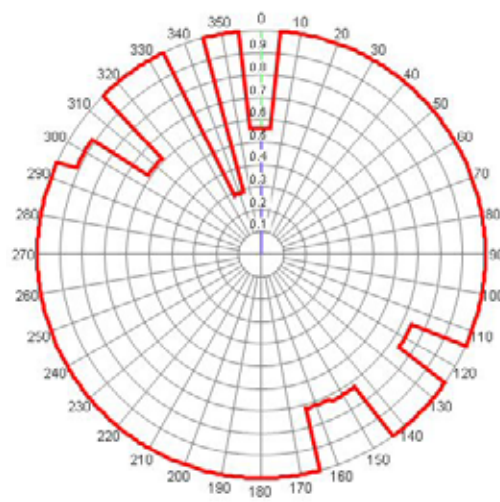
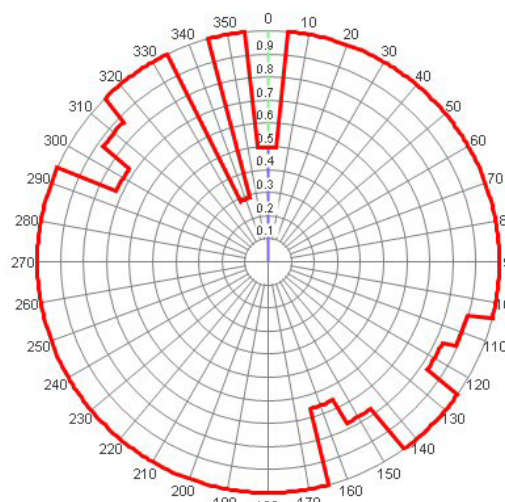
Coverage at 74m

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

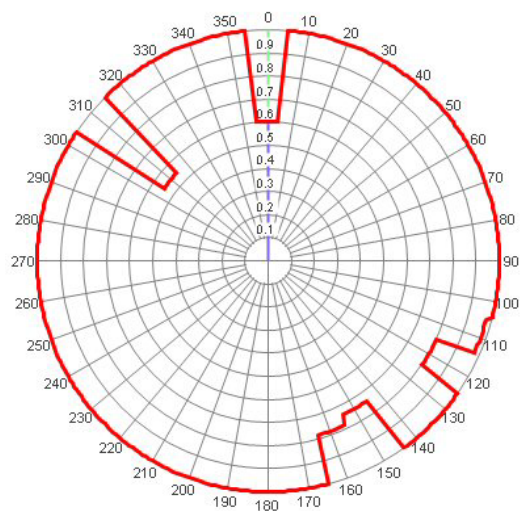
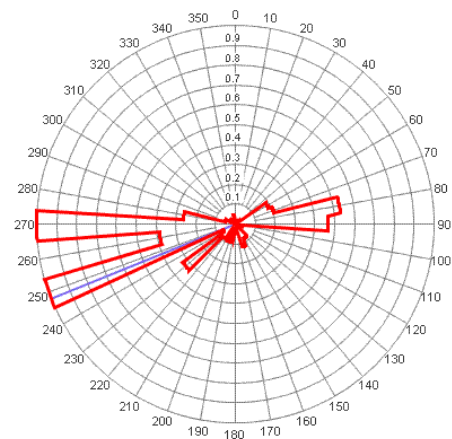
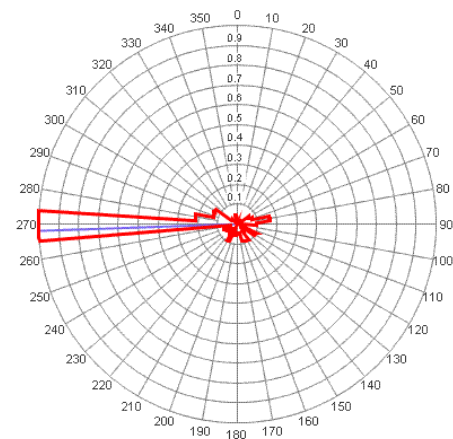


Figure 4 : Winter Hill ch56 templates for reduced ERP and height

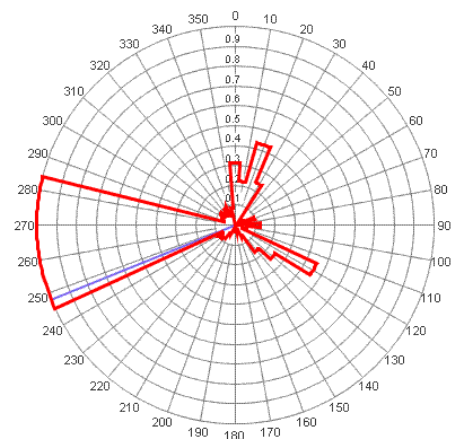
**Other Channel Possibilities**



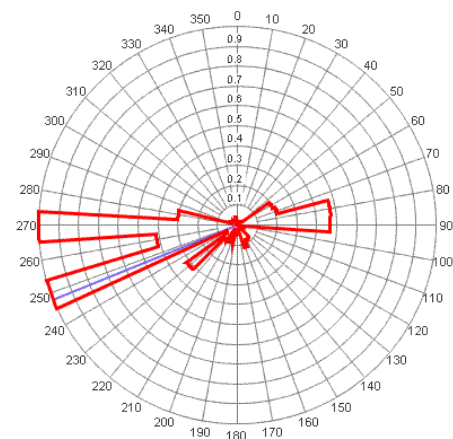
Ch21



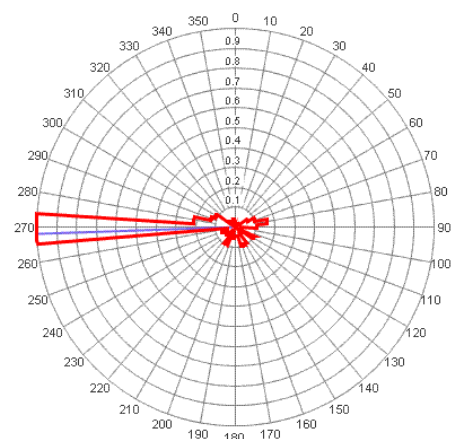
Ch22



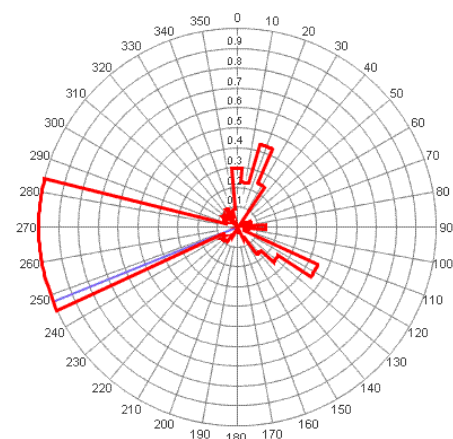
Ch23



Ch24



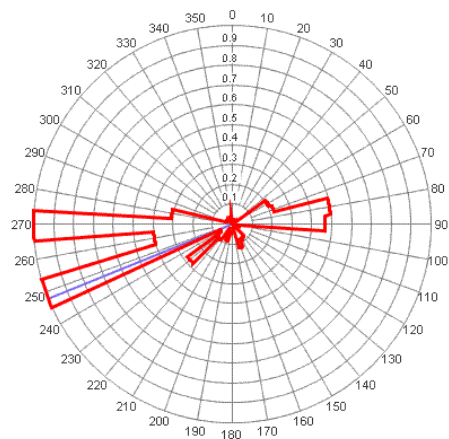
Ch25



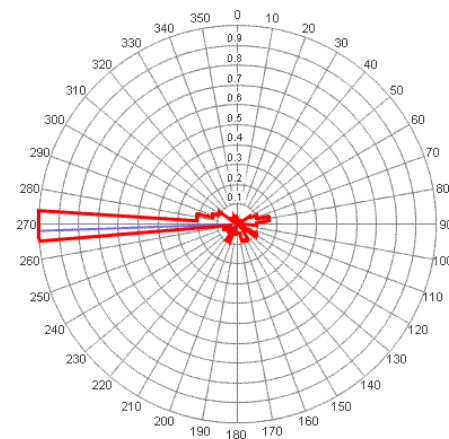
Ch26

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

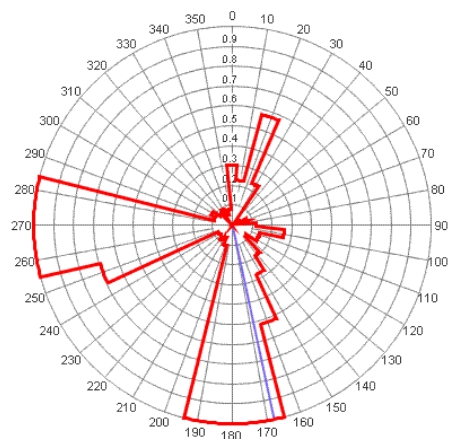
**Other Channel Possibilities**



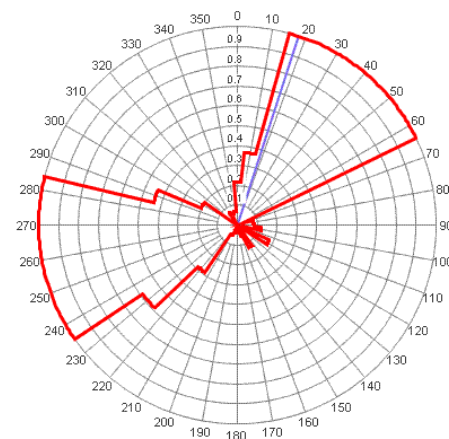
Ch27



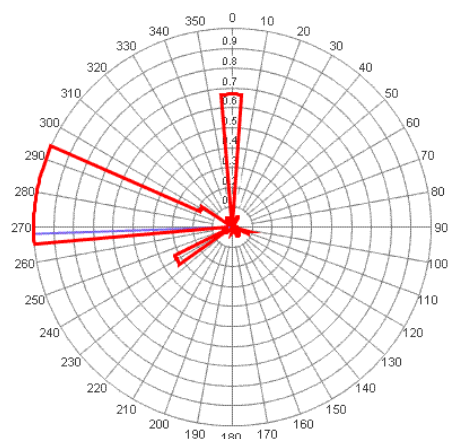
Ch28



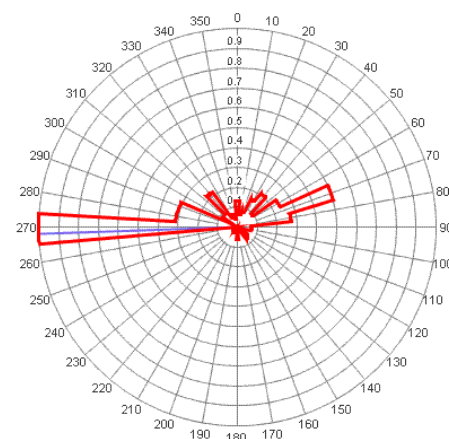
Ch29



Ch30



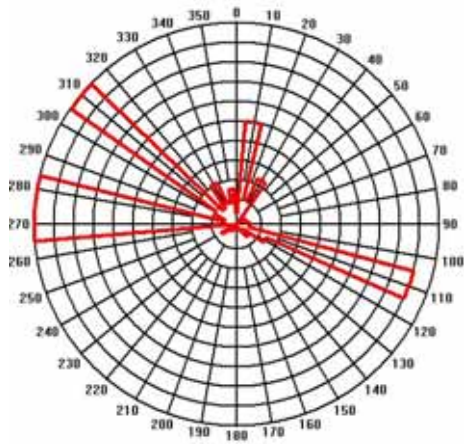
Ch41



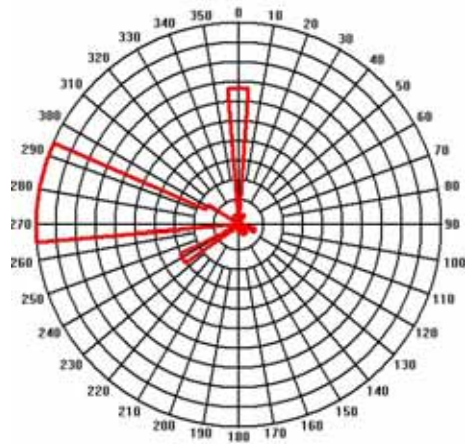
Ch42

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

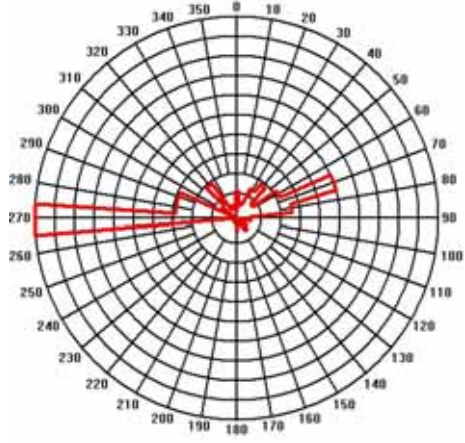
**Other Channel Possibilities**



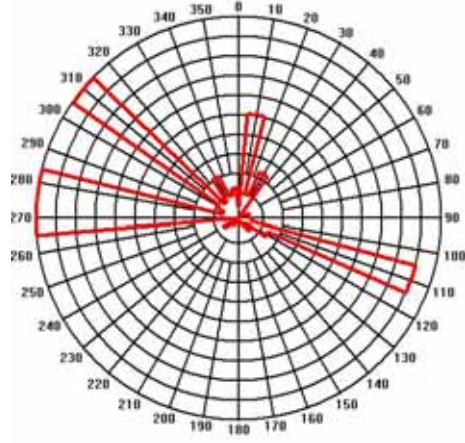
Ch43



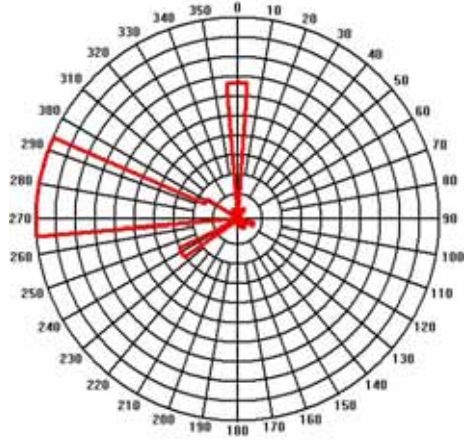
Ch44



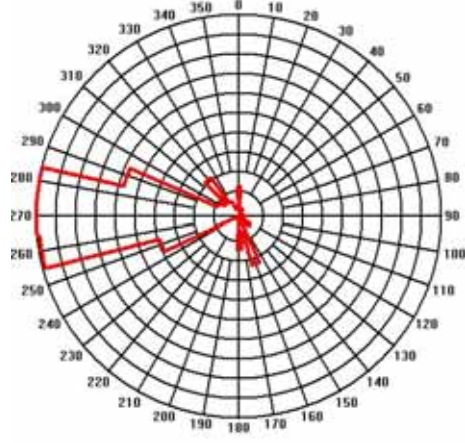
Ch45



Ch46



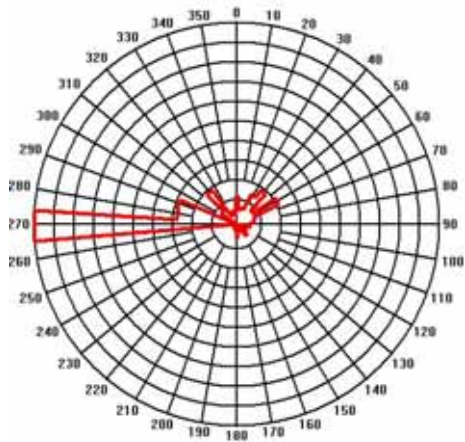
Ch47



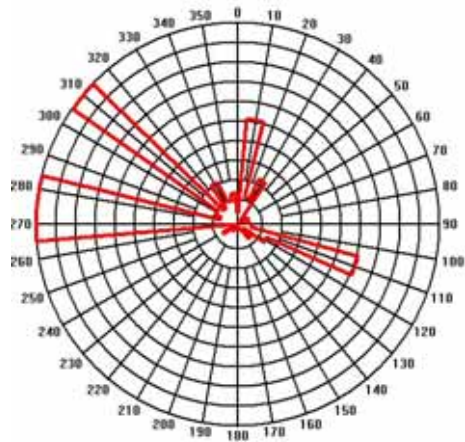
Ch48

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

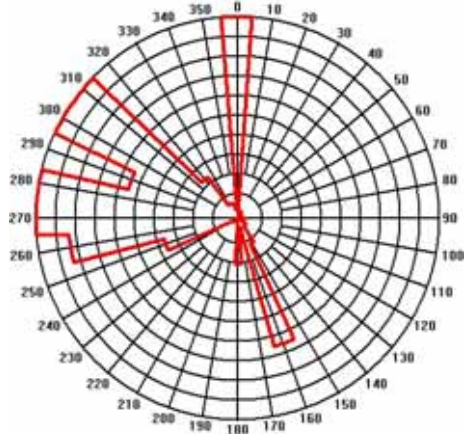
**Other Channel Possibilities**



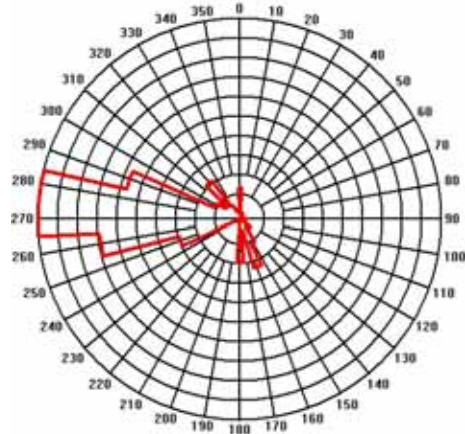
Ch49



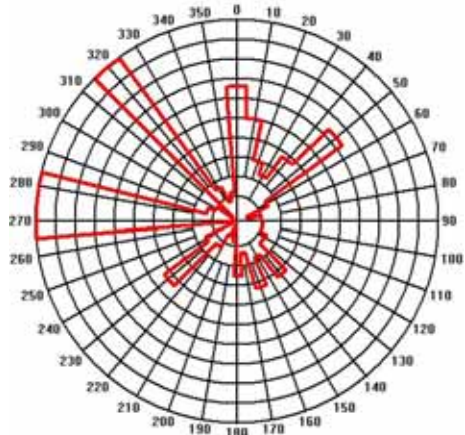
Ch50



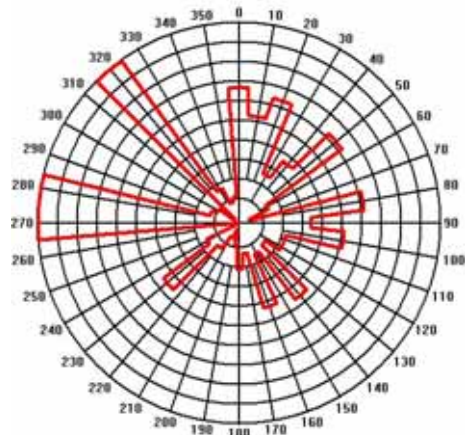
Ch51



Ch52



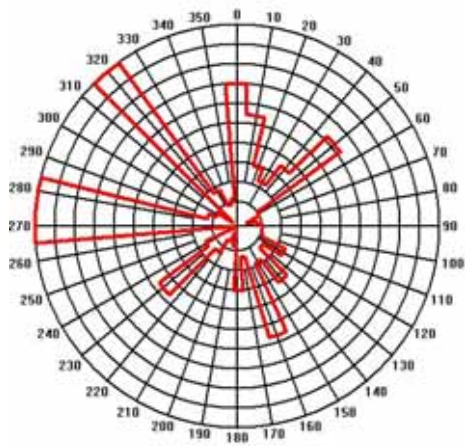
Ch53



Ch57

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

### Other Channel Possibilities



Ch60

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

Bearing	ETN	Station	Name	Easting	Northing	Wanted FS dB $\mu$ V/m	Wanted %Location	Modified % Location	ERP Reduction dB	Num Affected points in arc	Affected Pop in arc
0	13750	MILLTHROP		360850	491850	57.4	85.7	83.2	16.1	3	6
90	11100	WALTHAM		505450	410150	62.3	90.1	86.5	5.1	1	17
100	11100	WALTHAM		511850	395050	76.9	99	89.8	0.8	1	1
110	11100	WALTHAM		564850	322150	68.3	83.9	81.9	11	53	493
120	11100	WALTHAM		557550	314450	74.4	87.6	86.7	11.6	305	2615
130	11100	WALTHAM		490350	309150	75.6	91	89.4	7.5	62	428
140	11100	WALTHAM		433450	324950	62.8	87.8	85.4	8.9	43	518
140	10214	HARTINGTON		415250	358650	65.1	93.9	90.8	3	1	4
150	11100	WALTHAM		441850	294850	67	91.1	88.8	10.7	55	559
150	10228	CHEADLE		400650	343850	68.8	84.2	83.9	12.2	2	9
160	11000	MENDIP		428950	221550	60.9	90.5	86.5	1.5	1	2
160	10260	RUGELEY		402750	315750	63.8	88.4	86.9	13.6	1	1
160	11100	WALTHAM		395050	337950	75.6	78	74.1	4	3	23
170	11000	MENDIP		384150	199850	57.8	87.9	83.1	2.4	7	129
170	10201	KINVER		385550	280650	71.2	100	89.3	8.5	2	2
180	11000	MENDIP		367350	213150	69.5	87.9	87.6	3.2	25	131
		HUNTSHAW									
200	13800	CROSS		247750	103950	66.4	90	88.1	5.4	1	1
300	10708	WHITEHEAD		158950	548650	68	96.4	91.5	12.8	9	148
310	10709	BELLAIR		145150	574950	71.3	96.8	91.6	11.2	22	456
340	13747	CROSTHWAITE		343050	493850	58.8	91	87.9	20.8	15	22

Table 1: Restrictions for ch56, 10kW omnidirectional at 294m