

# ENGINEERING STATEMENT

Prepared by Guy Smith, RF Engineer, Ramar Communications II Ltd.  
in connection with its Petition for Rule Making  
to Modify the Allotment for channel 248 C2 at Denver City, TX

Channel 282 is allotted to Denver City, TX as a class C2 FM Station at reference coordinates of 33-01-53.0 N, 102-48-47.0 W. As can be seen in the allocation study (Table 1 below) this allotment is short spaced, by 17.2 kilometers, to the licensed operation of KSTQ-FM. However, a site is available 18.3 kilometers to the west southwest of the current allotment coordinates, that satisfies all spacing requirements and would afford principal community signal level coverage to all of Denver City. See the allocation study (Table 2) below.

**Table 1 Allocation Study – Current coordinates**

ComStudy 2.2 search of channel 248 (97.5 MHz Class C2) at 33-01-53.0 N, 102-48-47.0 W.

CALL	CITY	ST	CHN	CL	DIST	SEP	BRNG	CLEARANCE
KSTQ-FM	PLAINVIEW	TX	247	C1	140.78	158.00	48.6	-17.2
KSTQ-FM	PLAINVIEW	TX	247	C1	140.78	158.00	48.6	-17.2
KSTQ-FM	PLAINVIEW	TX	247	C1	172.99	158.00	37.4	15.0
KMCM	ODESSA	TX	245	C1	115.81	79.00	154.7	36.8
KMCM	ODESSA	TX	245	C1	115.81	79.00	154.7	36.8
KKLY	PECOS	TX	247	C1	171.86	158.00	192.0	13.9
DKDNC	DENVER CITY	TX	248	C2	0.00	190.00	90.0	0.0
	O'DONNELL	TX	249	A	106.28	106.00	96.1	0.3

**Table 2 Allocation Study – Proposed coordinates**

ComStudy 2.2 search of channel 248 (97.5 MHz Class C2) at 32-55-57.0 N, 102-58-10.0 W.

CALL	CITY	ST	CHN	CL	DIST	SEP	BRNG	CLEARANCE
KSTQ-FM	PLAINVIEW	TX	247	C1	159.01	158.00	49.1	1.0
KSTQ-FM	PLAINVIEW	TX	247	C1	159.01	158.00	49.1	1.0
KSTQ-FM	PLAINVIEW	TX	247	C1	190.66	158.00	38.8	32.7
KMCM	ODESSA	TX	245	C1	113.62	79.00	145.6	34.6
KMCM	ODESSA	TX	245	C1	113.62	79.00	145.6	34.6
KKLY	PECOS	TX	247	C1	158.56	158.00	187.6	0.6
KKLY	PECOS	TX	247	C1	193.31	158.00	192.4	35.3
DKDNC	DENVER CITY	TX	248	C2	18.27	190.00	52.9	-171.7
	O'DONNELL	TX	249	A	120.32	106.00	90.0	14.3

The map on page 3 of this document shows the F(50,50) coverage contours for a Class C2 station with maximum facilities at the proposed coordinates as well as the signal levels predicted using the Longley-Rice methodology of OET-69. Page 4 is a closeup of Denver City demonstrating that the entire city would receive a 3.16 mV/m or better signal.

Should this proposal be adopted, it would permit station KSTQ-FM to eliminate the directional antenna that was originally required by the FAA because of concerns about possible interference to aircraft communications. The FAA agreed in the determination to drop the requirement for a directional antenna if KSTQ-FM could operate for a year without any interference using the directional antenna. KSTQ-FM has now operated with licensed facilities for nearly 18 months and no interference has been reported.

The non-directional antenna pattern would permit KSTQ-FM to provide improved service to a substantial number of listeners. Table 3, below, lists the numbers of people (2000 Census) receiving 3.16 mV/m and 1 mV/m service with the present directional antenna and the proposed non-directional antenna by the standard population count method using F(50,500) contours and by the Longley-Rice method. It should be noted that the antenna pattern in the FCC Engineering Database is the theoretical pattern authorized in the construction permit rather than the real world pattern specified in the license application. The principal improvement is in the number of people in the City of Lubbock, TX, where ambient noise levels are often too high for reliable reception on inexpensive receivers with less than a principal community 3.16 mV/m signal.

**Table 3 Population Counts**

	Licensed	Omni	Gain
60dbu	309786	312092	2306 (0.74%)
70dbu	130092	252684	122592 (94.2%)

## **CERTIFICATION**

The above is true and correct to the best of my knowledge and belief.

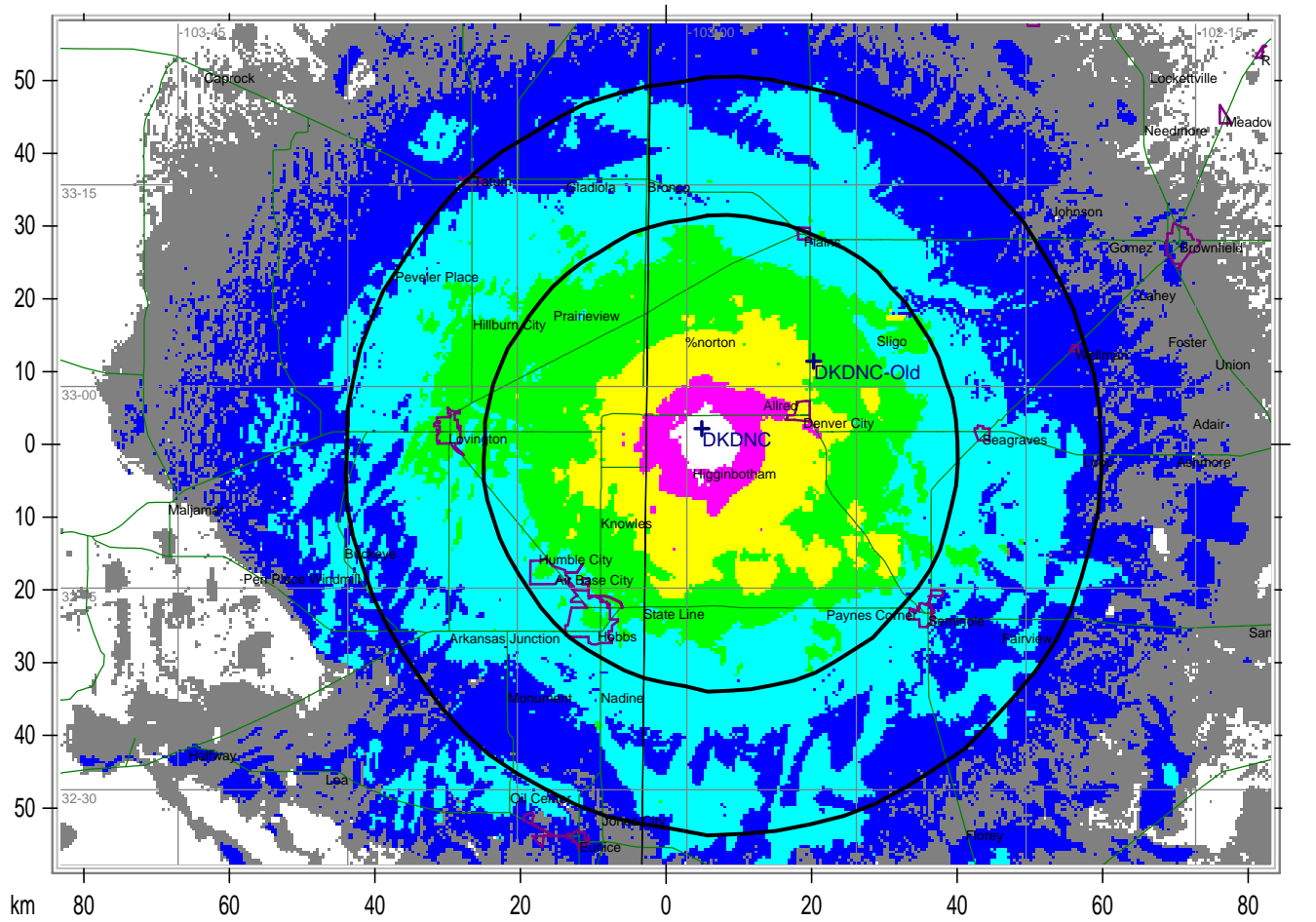


Guy Smith

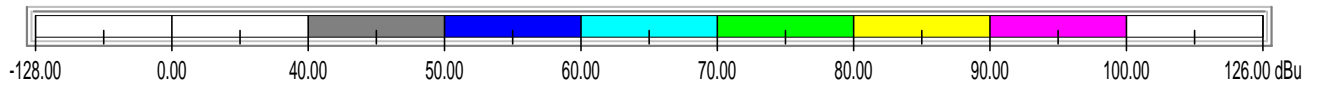
RF Engineer

Ramar Communications II, Ltd.

## Coverage from proposed Site

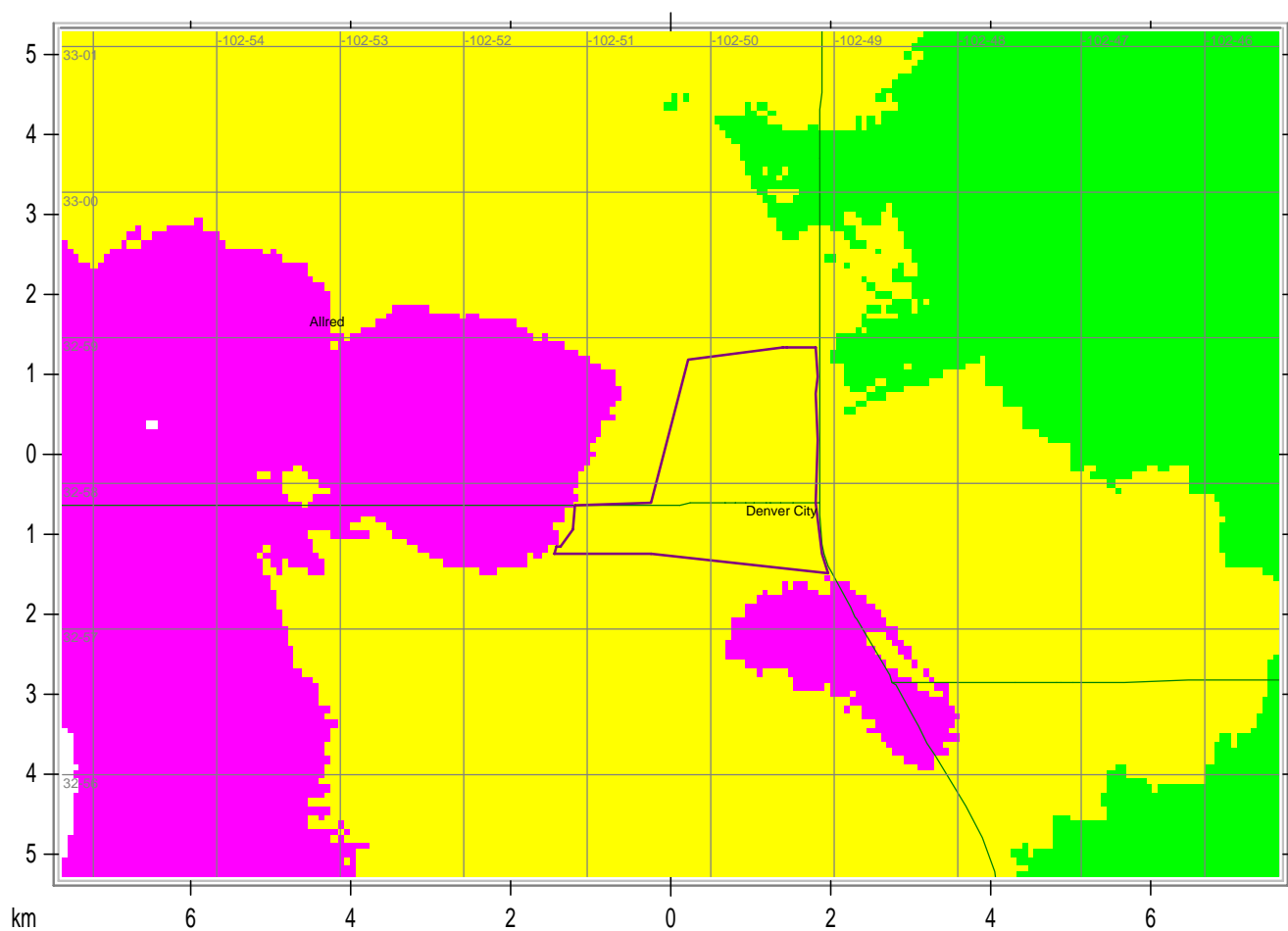


Maximum facilities 32-56-52 102-58-41



State Borders    City Borders    Highways    Lat/Lon Grid

## Closeup of Coverage of Denver City



Longley - Rice - Maximum facilities 32-55-57 102-58-10



State Borders    City Borders    Highways    Lat/Lon Grid