Date	**8/4/2021**
Call Letters	**KSSX**
Location	**Carlsbad, CA**
Customer	**Iheart Media**
Antenna Type	**DCRC6E50T075**
Frequency	**95.7**
Drawing #	**7**

PATTERN CERTIFICATION

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PATTERN CERTIFICATION

Method of Measurement

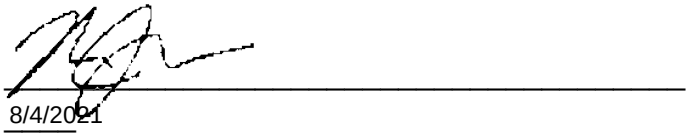
The azimuth pattern for KSSX, Dielectric Document Sketch #7, was measured in the following manner.

A single 4.4 to 1 scale model “DCRC6E50T075” bay radiator was mounted on a similarly scaled model of the tower according to information provided to Dielectric by the customer; refer to Dielectric Document Sketch #7. The antenna under test, all parasitics, all known tower appurtenances, and the tower section were rotated through 360 degrees while receiving a signal at the appropriate frequency from a linear cavity-backed source antenna. Both the horizontal and vertical polarization azimuth patterns were measured in an anechoic test range.

The transmit and scale model antennas are mounted at identical elevations and at opposite ends of the chamber. A Hewlett Packard model 8753ET network analyzer was used to supply the RF signal to the source antenna at 4.4 times the fundamental FM frequency and to receive the signal intercepted by the antenna under test. The received signal was converted to a relative level, referenced to the source. This level was stored on a computer acting as the master controller. The computer controls the measurement system via IEEE-488 control bus through a GPIB card.

Statement of Qualifications

Nicole Starrett is an Electrical Engineer here at Dielectric. She received a BS in Electrical Engineering from the University of Maine in 2014. She has 6 year(s) experience in RF antenna engineering and has been employed by Dielectric since 2014.

Signed by: 

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FM AZIMUTH PATTERN APPROVAL

The azimuth pattern of the horizontal polarization and vertical polarization as supplied by Dielectric in the document labeled “Pattern 7”, is acknowledged as acceptable.

We understand that Dielectric does not guarantee or predict signal strength in any particular location.

_____
(Customer's name)

By: _____
(Name typed or printed)

Title: _____

_____
(Signature)

Dielectric

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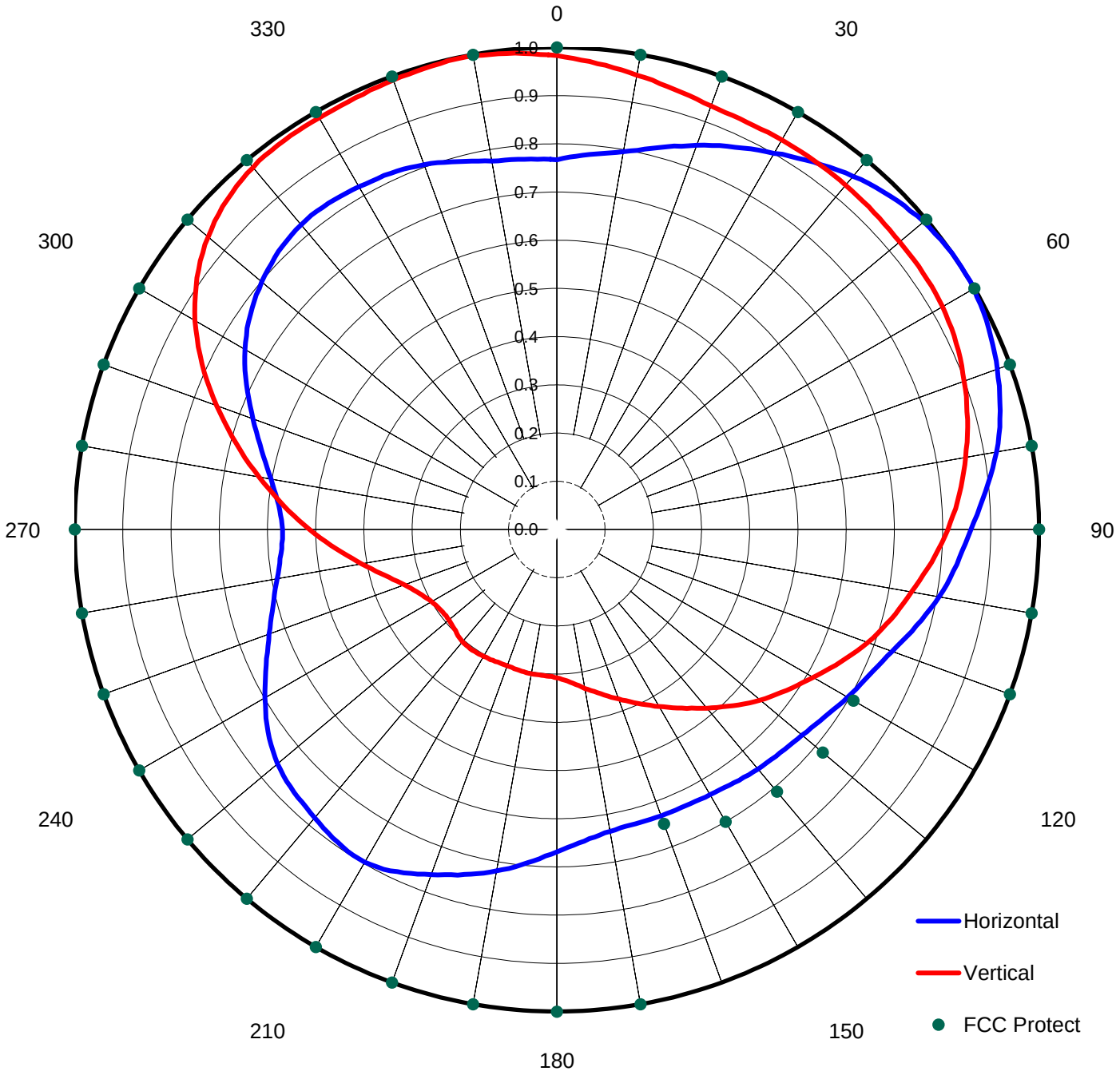
AZIMUTH PATTERN

85.16% Ccov 51.9% Hrms - 48.1% Vrms

Gain **1.68 (2.24 dB) HPOL**
1.94 (2.88 dB) VPOL

Calculated / Measured **Measured**



Dielectric

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TABULATION OF HORIZONTAL AZIMUTH PATTERN

Angle	Field	dBk	ERP kW
	0.767	12.467	17.649
10	0.796	12.789	19.008
20	0.848	13.339	21.573
30	0.901	13.866	24.354
40	0.956	14.380	27.418
50	0.993	14.710	29.581
60	0.999	14.763	29.940
70	0.972	14.525	28.344
80	0.926	14.103	25.724
90	0.859	13.451	22.136
100	0.805	12.887	19.441
110	0.740	12.156	16.428
120	0.696	11.623	14.532
130	0.664	11.215	13.227
140	0.649	11.016	12.636
150	0.635	10.827	12.097
160	0.632	10.786	11.983
170	0.636	10.840	12.135
180	0.669	11.280	13.427
190	0.719	11.906	15.509
200	0.762	12.410	17.419
210	0.797	12.800	19.056
220	0.781	12.624	18.299
230	0.756	12.342	17.146
240	0.699	11.661	14.658
250	0.635	10.827	12.097
260	0.589	10.174	10.408
270	0.569	9.873	9.713
280	0.602	10.363	10.872
290	0.671	11.306	13.507
300	0.747	12.238	16.740
310	0.799	12.822	19.152
320	0.825	13.100	20.419
330	0.821	13.058	20.221
340	0.805	12.887	19.441
350	0.776	12.568	18.065
Additional Point 55	1.000	14.771	30.000

Dielectric

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TABULATION OF VERTICAL AZIMUTH PATTERN

Angle	Field	dBk	ERP kW
	0.983	14.622	28.989
10	0.957	14.389	27.475
20	0.935	14.187	26.227
30	0.933	14.169	26.115
40	0.932	14.160	26.059
50	0.928	14.122	25.836
60	0.924	14.085	25.613
70	0.899	13.846	24.246
80	0.861	13.471	22.240
90	0.811	12.952	19.732
100	0.747	12.238	16.740
110	0.686	11.498	14.118
120	0.614	10.535	11.310
130	0.551	9.594	9.108
140	0.484	8.468	7.028
150	0.424	7.319	5.393
160	0.374	6.229	4.196
170	0.335	5.272	3.367
180	0.308	4.542	2.846
190	0.304	4.429	2.772
200	0.301	4.343	2.718
210	0.304	4.429	2.772
220	0.304	4.429	2.772
230	0.292	4.079	2.558
240	0.300	4.314	2.700
250	0.336	5.298	3.387
260	0.411	7.048	5.068
270	0.513	8.974	7.895
280	0.627	10.717	11.794
290	0.751	12.284	16.920
300	0.867	13.532	22.551
310	0.944	14.271	26.734
320	0.980	14.596	28.812
330	0.986	14.649	29.166
340	0.992	14.701	29.522
350	0.998	14.754	29.880

Dielectric

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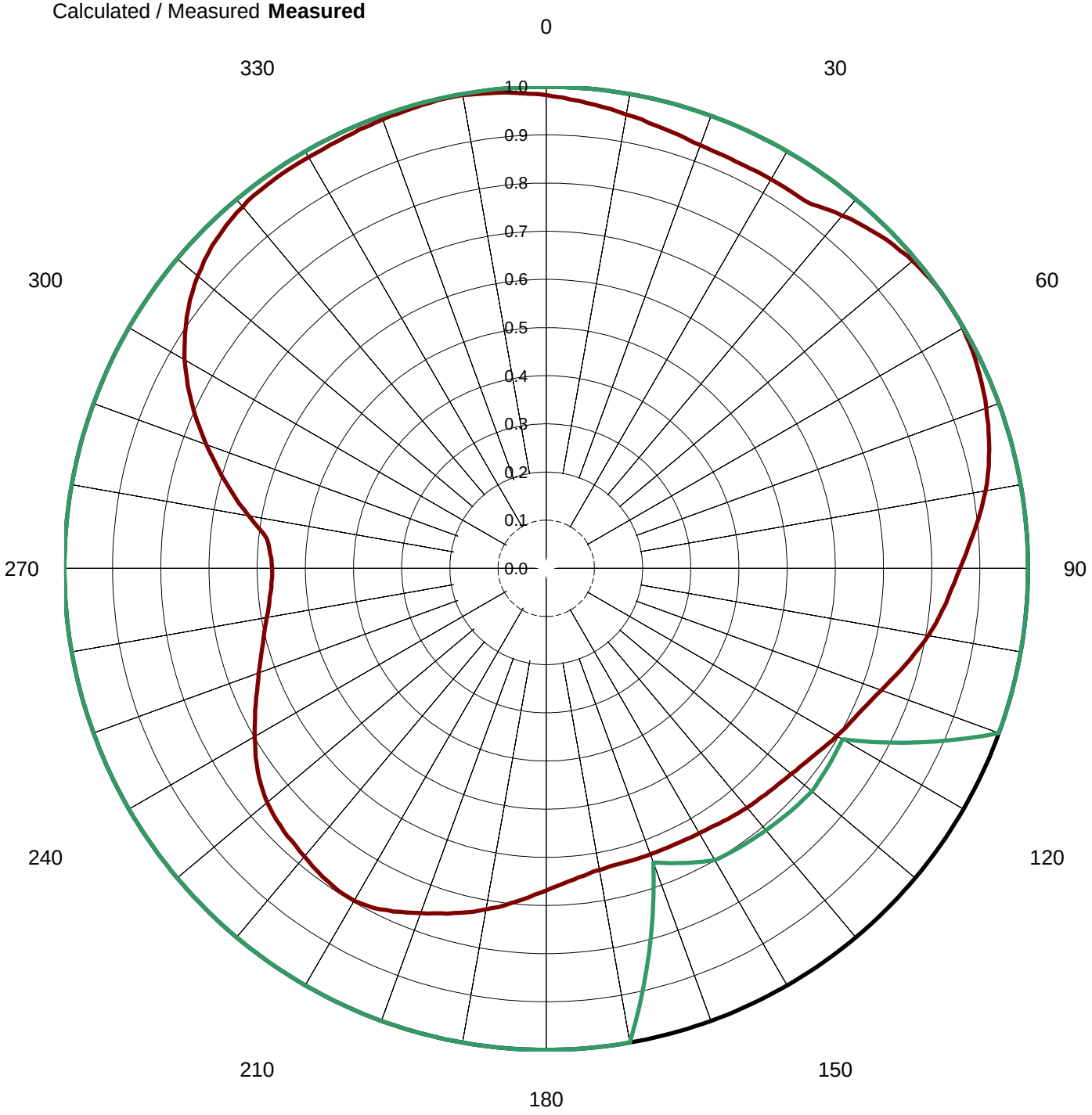
COMPOSITE AZIMUTH PATTERN

Calculated / Measured **Measured**



Dielectric

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TABULATION OF COMPOSITE AZIMUTH PATTERN

Angle	Field	dBk	Power kW	Input Power
	0.983	14.622	28.989	30.000
10	0.957	14.389	27.475	30.000
20	0.935	14.187	26.227	30.000
30	0.933	14.169	26.115	30.000
40	0.956	14.380	27.418	30.000
50	0.993	14.710	29.581	30.000
60	0.999	14.763	29.940	30.000
70	0.972	14.525	28.344	30.000
80	0.926	14.103	25.724	30.000
90	0.859	13.451	22.136	30.000
100	0.805	12.887	19.441	30.000
110	0.740	12.156	16.428	30.000
120	0.696	11.623	14.532	30.000
130	0.664	11.215	13.227	30.000
140	0.649	11.016	12.636	30.000
150	0.635	10.827	12.097	30.000
160	0.632	10.786	11.983	30.000
170	0.636	10.840	12.135	30.000
180	0.669	11.280	13.427	30.000
190	0.719	11.906	15.509	30.000
200	0.762	12.410	17.419	30.000
210	0.797	12.800	19.056	30.000
220	0.781	12.624	18.299	30.000
230	0.756	12.342	17.146	30.000
240	0.699	11.661	14.658	30.000
250	0.635	10.827	12.097	30.000
260	0.589	10.174	10.408	30.000
270	0.569	9.873	9.713	30.000
280	0.627	10.717	11.794	30.000
290	0.751	12.284	16.920	30.000
300	0.867	13.532	22.551	30.000
310	0.944	14.271	26.734	30.000
320	0.980	14.596	28.812	30.000
330	0.986	14.649	29.166	30.000
340	0.992	14.701	29.522	30.000
350	0.998	14.754	29.880	30.000
Additional Point 55	1.000	14.771	30.000	30.000

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CUSTOMER GAIN SUMMARY

Azimuth Pattern Gain of Horizontal Polarization	1.68	(2.24 dB)
Elevation Pattern Gain Per Polarization	1.80	(2.55 dB)
Peak Gain of Horizontal Polarization	3.02	(4.79 dB)

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ELEVATION PATTERN

RMS Gain at Main Lobe	**1.80 (2.55 dB)**	Beam Tilt	**0.75 deg**
Per Polarization		Frequency	**95.7 MHz**
Calculated / Measured	**Calculated**