

Exhibit 11 – Statement A
NATURE OF THE PROPOSAL
ALLOCATION AND ENVIRONMENTAL CONSIDERATIONS
prepared for
WLII/WSUR License Partnership, G.P.
WKAQ-FM1 FM Booster Juana Diaz, Puerto Rico
Ch. 284D (104.7 MHz) 0.10 kW

WLII/WSUR License Partnership, G.P. (“*WLII/WSUR*”), is the licensee of WKAQ-FM (Ch. 284B) San Juan, PR. Due to the dramatic terrain differences prevalent within the protected service contour of WKAQ-FM boosters are employed to provide service in certain areas. WKAQ-FM1, licensed to operate with 0.10 kW in the vicinity of Juana Diaz, PR within the WKAQ-FM 0.5 mV/m protected service contour, is currently silent under STA (BLSTA-20171013ACD). Hurricane Maria damaged the WKAQ-FM1 site beyond repair. *WLII/WSUR* is proposing herewith to relocate WKAQ-FM1 to an existing unregistered 55 meter self supporting tower located 0.34 km distant from the previously authorized site. *WLII/WSUR* proposes to operate with a replacement antenna that is identical to the previously authorized circularly polarized antenna. The effective radiated power (“ERP”) will remain 0.10 kW.

The proposed replacement antenna will be a custom array of three (3) yagi directional Kathrein/Scala model CA5-FM/CP/RM elements side-mounted on the existing tower, at a radiation center of 15 m above ground level (“AGL”).

Allocation Considerations

In keeping with §74.1235(c) of the FCC Rules and as shown in **Exhibit 11 – Figure 1**, the 54 dBμ (0.5 mV/m) service contour of the proposed booster is entirely contained within the 54 dBμ protected service contour of WKAQ-FM over U.S. Land area. Additionally, the proposed 0.10 kW booster ERP is less than one percent of the fifty (50) kilowatt ERP class maximum of the parent station.

The proposed WKAQ-FM1 facility on Ch. 284 complies with all pertinent allocation constraints. I.F channel spacing requirements (For Channels 230 and 231) are treated the same as if WKAQ-FM1 were a Class B facility, thus warranting a 20 km separation. The closest Channel 230 facility is an apparent application in the British Virgin Islands, located 194.9 km distant. The closest

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Channel 231 facility is WNOD(FM), Mayaguez, PR, Ch. 231B, 56.9 km distant. There are no upper or lower first adjacent facilities that are close enough to WKAQ-FM1 to warrant comparison of interfering to protected signal strength contours. The closest identifiable lower first adjacent FM facility (Ch. 283) is WFLM(FM), Ch. 283C2, White, FL, 1,762.8 km distant. The closest identifiable upper first adjacent FM facility (Ch. 285) is WMNG(FM), Ch. 285B, Christiansted, U.S.V.I., 192.1 km distant. Therefore, the proposed facility complies with §74.1204(g) and §74.1204 (i) of the FCC Rules.

Based on data extracted from the FCC's licensing databases, no AM broadcast stations are located within 9 km (5.6 miles) of the existing site well in excess of the construction notification requirements of §1.30002 of the FCC Rules. It is thus believed that the facility proposed herein will satisfy all the pertinent Commission Rules and Policies now in effect regarding allocation matters for an FM booster facility.

Arecibo Observatory Coordination Considerations

Pursuant to Section 73.1030(a)(2) of the FCC Rules, the Interference Office of the Arecibo Observatory is being notified of the instant proposal for WKAQ-FM1 with pertinent technical parameters. A copy of that letter, with technical parameters attached, is attached herewith as **Exhibit 11 - Figure 2.**

FCC Monitoring Station Considerations

The proposed replacement facility for WKAQ-FM1 will be situated 12 km from the protected FCC Field Office location specified in Section 0.121 of the FCC Rules for Santa Isabel, PR on a bearing of 135°. Pursuant to Section 73.1030(c) of the Commission's Rules, the received signal at the monitoring station should be less than 10 mV/m to avoid potentially harmful interference to FCC monitoring equipment. Guidelines provided with 73.1030 suggest that a facility within 16 km with an ERP of 1 kW or more will almost certainly require advance coordination. The proposed 0.1 kW WKAQ-FM1 facility will essentially duplicate what has been present for a number of years. The signal strength at the FCC monitoring station resulting from the WKAQ-FM1 facility is expected to be 5.6 mV/m and therefore acceptable to the Commission's monitoring station. In the

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event that resumption of operations of WKAQ-FM1 results in any objectional interference to the FCC Monitoring station, *WLII/WSUR* will modify operations as requested to meet FCC requirements.

Environmental Considerations

The use of existing transmitting locations has been characterized as being environmentally preferable by the Commission, according to Note 1 of §1.1306 of the FCC Rules. Since the proposed overall height will not extend the height of an existing, unregistered, unlit self-supporting structure less than 61m (200') in height AGL, it is believed that an aeronautical study is not necessary. Thus, no change in current structure marking and lighting requirements is anticipated. The tower also has been considered using the TOWAIR evaluation tool available from the FCC and deemed to not require registration. *(Further, there are no airports within 8 km of the existing site.)* Therefore, it is believed that this application may be categorically excluded from environmental processing pursuant to §1.1306 of the Commission's rules.

Human Exposure to Radiofrequency Radiation

In keeping with §1.1307(b) of the Commission's Rules, the proposed operation has been evaluated for human exposure to radiofrequency energy using the procedures outlined by the Federal Communications Commission in FCC OET Bulletin 65 ("OET-65"). OET-65 describes a means of determining whether a proposed facility exceeds the radiofrequency exposure guidelines specified in §1.1310 of the Commission's Rules. Under present Commission policy, a facility may be presumed to comply with the limits in §1.1310 of the Commission's Rules if it satisfies the exposure criteria set forth in OET-65. Based upon that methodology, and as demonstrated in the following, the proposed transmitting system will comply with the cited adopted guidelines.

The antenna will be supported at an elevation of 15 meters above accessible areas at ground level. Based on information provided by staff on site, the entire ground around the tower is fenced with a locked gate, restricted access and posted with pertinent RF Hazard Warning signs.

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According to elevation pattern data provided by Kathrein/Scala, the proposed circularly polarized yagi 3 element 0.87 Wavelength spaced antenna has a relative field of 16.4 percent or less from 30 to 90 degrees below the horizontal plane (i.e.: below the antenna). Thus, a value of 16.4 percent relative field is used for this calculation. Attached as **Exhibit 11 - Figure 3** is a copy of the horizontal and vertical plane data provided by the manufacturer for this array. The “uncontrolled/general population” limit specified in §1.1310 for 104.7 MHz is 200 µW/cm².

The formula used for calculating signal density in this analysis is essentially the same as equation (10) in OET-65:

$$S = (33.4098) (F^2) (ERP) / D^2$$

Where:

S	=	power density in microwatts/cm ²
ERP	=	total (average) ERP in Watts
F	=	relative field factor
D	=	distance in meters

Using this formula and the above assumptions, the proposed facility would contribute a maximum power density of 1.06 µW/cm² or 0.53 percent of the general population/uncontrolled MPE limit, at accessible areas two meters above ground level. At locations away from the antenna, the calculated RF power density is lower, due to the increasing distance. Thus, the proposed facility complies with §1.1307(b) of the Commission’s Rules regarding exposure to radiofrequency radiation.

Accordingly, it is believed that the impact of the proposed operation should not be considered to be a factor at or near ground level as defined under §1.1307(b).

Safety of Workers and the General Public

As demonstrated herein, excessive levels of RF energy attributable to the proposal will not be caused at publicly accessible areas near the antenna supporting structure. Consequently, members of the general public will not be exposed to RF levels in excess of the Commission’s guidelines. Nevertheless, appropriate RF exposure warning signs will continue to be posted and access will be restricted by appropriate means.

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With respect to worker safety, it is believed that based on the preceding analysis, excessive exposure would not occur in areas at ground level. A site exposure policy is employed protecting maintenance workers from excessive exposure when work must be performed on the structure or in areas where high RF levels may be present. Such protective measures include, but are not limited to, restriction of access to areas where levels in excess of the guidelines may be expected, power reduction, or the complete shutdown of facilities when work or inspections must be performed in areas where the exposure guidelines would otherwise be exceeded. On-site RF exposure measurements may also be undertaken to establish the bounds of safe working areas.

Conclusion

Based on the preceding, it is believed that the instant proposal may be categorically excluded from environmental processing under §1.1306 of the Rules; hence preparation of an Environmental Assessment is not required.

EXHIBIT 11 - MAP FIGURE 1
PROPOSED WKAQ-FM1 BOOSTER FACILITY 0.5 mV/M SERVICE CONTOUR
LIES WITHIN PRIMARY STATION WKAQ-FM 0.5 mV/M PROTECTED SERVICE CONTOUR
OVER U.S. LAND

WKAQ-FM1 FM BOOSTER JUANA DIAZ, PUERTO RICO
CH. 284D (104.7 MHz) 0.10 kW FACILITY ID: 19100

prepared July 2019 for

WLII/WSUR License Partnership, G.P.

Cavell, Mertz & Associates, Inc.
Manassas, VA

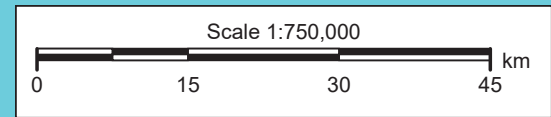
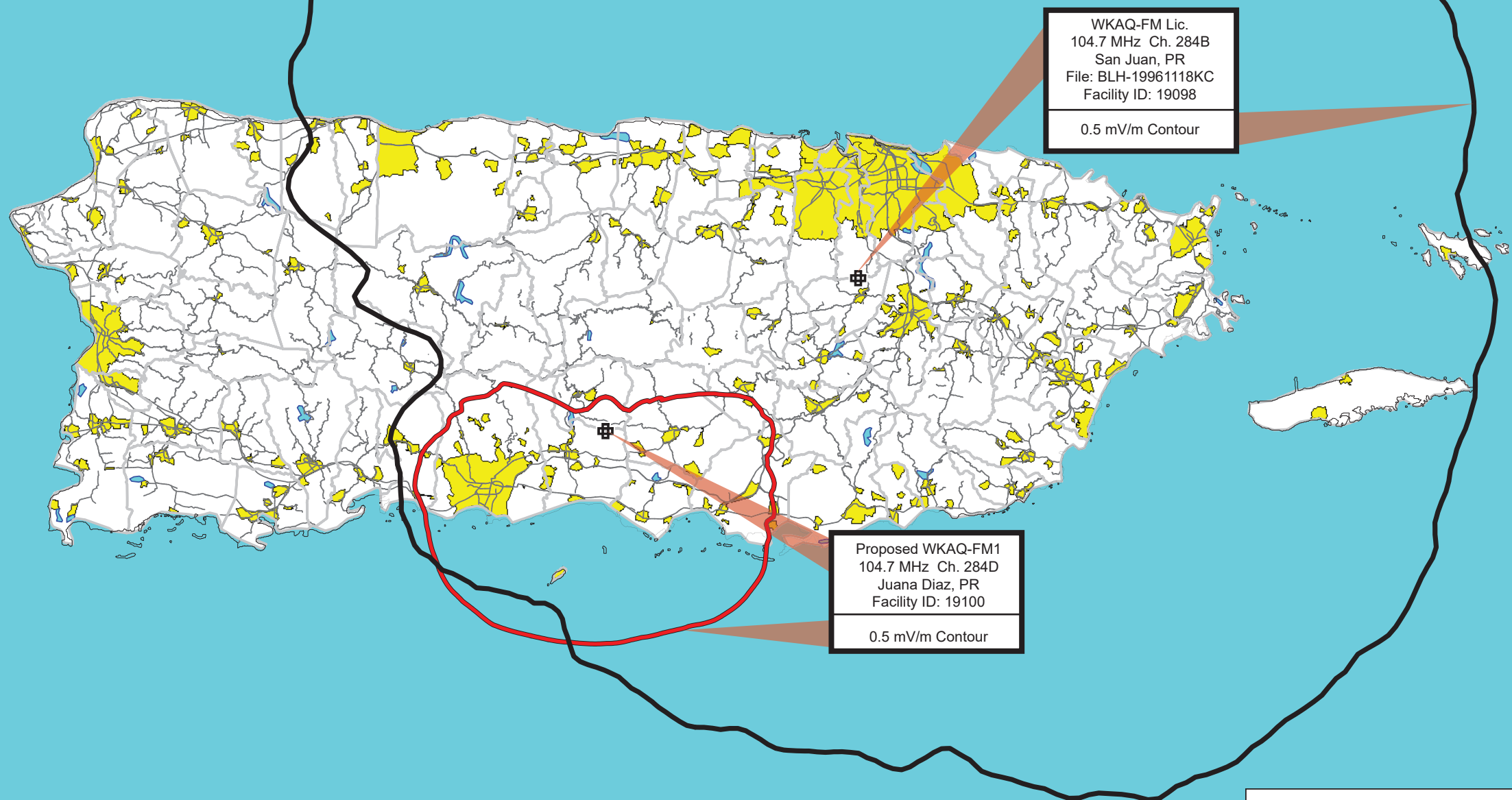


EXHIBIT 11 - FIGURE 2 (PAGE 1 OF 2) WKAQ-FM1 ARECIBO NOTIFICATION



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July 11, 2019

Interference Office
Attn: Spectrum Manager
Mr. Angel Vazquez .
Arecibo Observatory
HC3 Box 53995
Arecibo, Puerto Rico 00612

RE: WKAQ-FM1 Booster

via e-mail to: prcz@naic.edu
angel@naic.edu

Dear Spectrum Manager – Arecibo:

In September, 2017, Hurricane Maria took FM Booster station WKAQ-FM1 near Juana Diaz off the air. That site can no longer be used. On behalf of WKAQ-FM and its Licensee, WLII/WSUR License Partnership G.P., we are herewith notifying you of an application being filed with the Federal Communications Commission to relocate the 100 Watt WKAQ-FM1 booster to a point 340 meters distant. A copy of the application as prepared for filing along with a summary of the technical parameters as outlined in your web page and in the FCC rules is included for your review.

A direct corporate contact for WKAQ-FM is
Mr. T.R. Stoner (tstoner@univision.net)-
Theodore Stoner, P.E.,
VP Distribution Technology Strategy
Broadcast Operations and Technology
Univision Communications Inc.
PO Box 54431, Cincinnati, Ohio 45254

Should you have any concerns or questions please contact us.

Sincerely,

Mark Peabody
For Cavell, Mertz & Associates, Inc.

Electronically Sent with pdf attachments

Cc: T.R. Stoner - WLII/WSUR License Partnership
tstoner@univision.net

WKAQ-FM1 Proposed Technical Parameters for Notification as

Specified by FCC Rule 73.1030 and Arecibo Observatory Web site

Please see attached copy of the Application as it will be submitted to the FCC.

• Geographic coordinates of the antenna (NAD-83 datum):

NAD 27 datum values: 18 05 2.00000 66 27 22.00000

NAD 83 datum values: 18 04 54.86258 66 27 20.61719

• Antenna height above ground:

15m Radiation Center AGL (3 Yagis vertically spaced 0.87 Wavelengths - approximately 8.5 feet apart)

• Ground elevation:

520 Meters AMSL

• Antenna direction and gain, if any:

Gain 3.6 dBd Lobes at 110°, 180°, and 250°.

• Proposed frequency and FCC Rule Part

104.7 MHz, FCC Rules Part 74 Booster retransmitting Part 73 Commercial FM WKAQ-FM

• Type of emission:

200kF3E

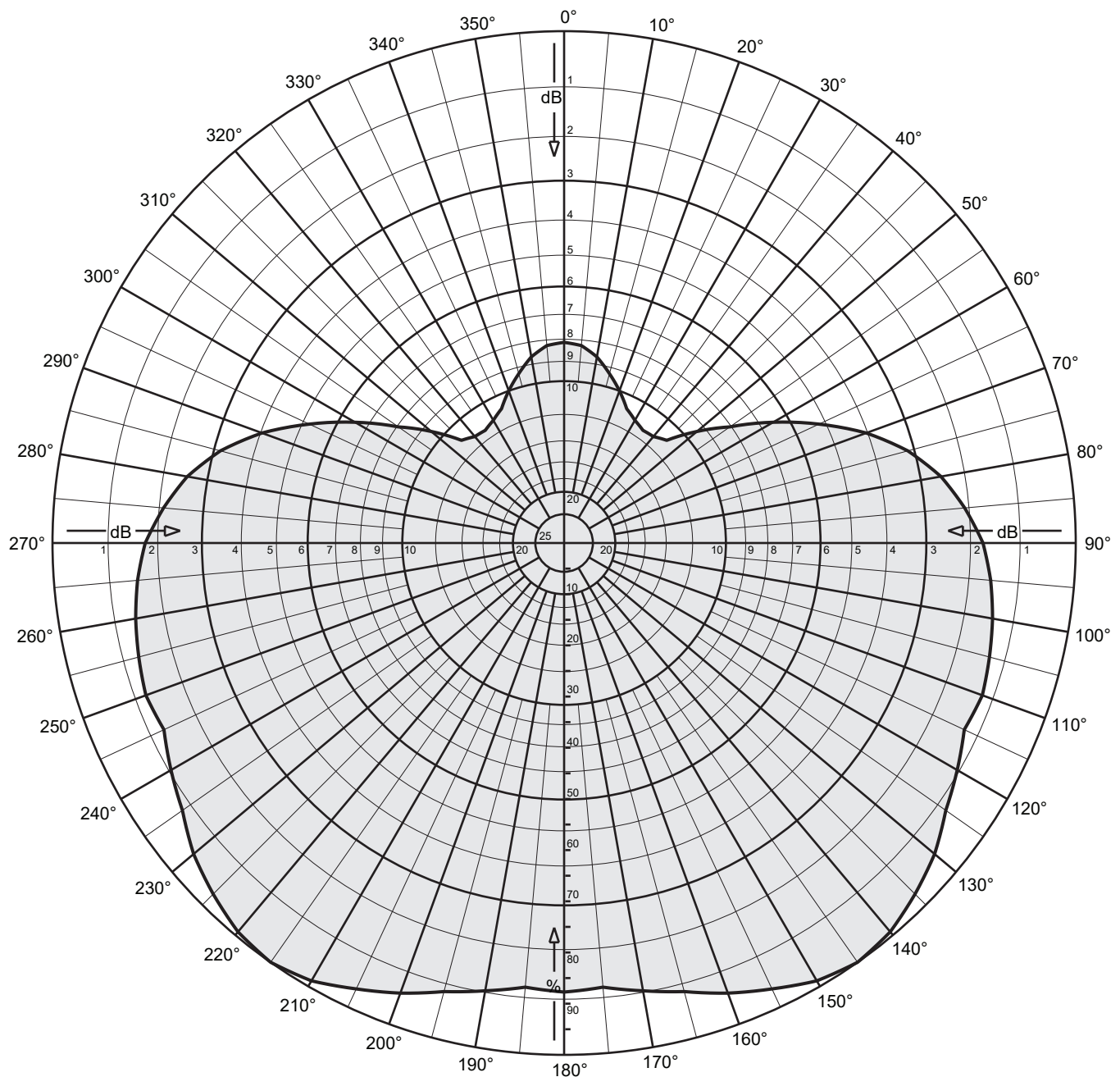
• Effective radiated power or effective isotropic radiated power.

ERP: 100 Watts Circularly Polarized

• Whether the proposed use is itinerant

Proposed Use is not Itinerant. Proposed Resumption of Fulltime Operation of FM Booster Retransmitting WKAQ-FM on 104.7 MHz. -

EXHIBIT 11 - FIGURE 3 (PAGE 1 OF 7) WKAQ-FM1 ANTENNA DATA



Three CA5-FM/CP/RM/50N Yagi Antennas

Oriented at 110, 180, 250 degrees

Frequency: 104.7 MHz

Gain: 3.6 dBd (x 2.3)

Circular Polarization

Vertical stacked 0.87 wavelength

Horizontal plane Pattern

WKAQ-FM1

EXHIBIT 11 - FIGURE 3 (PAGE 2 OF 7) WKAQ-FM1 ANTENNA DATA

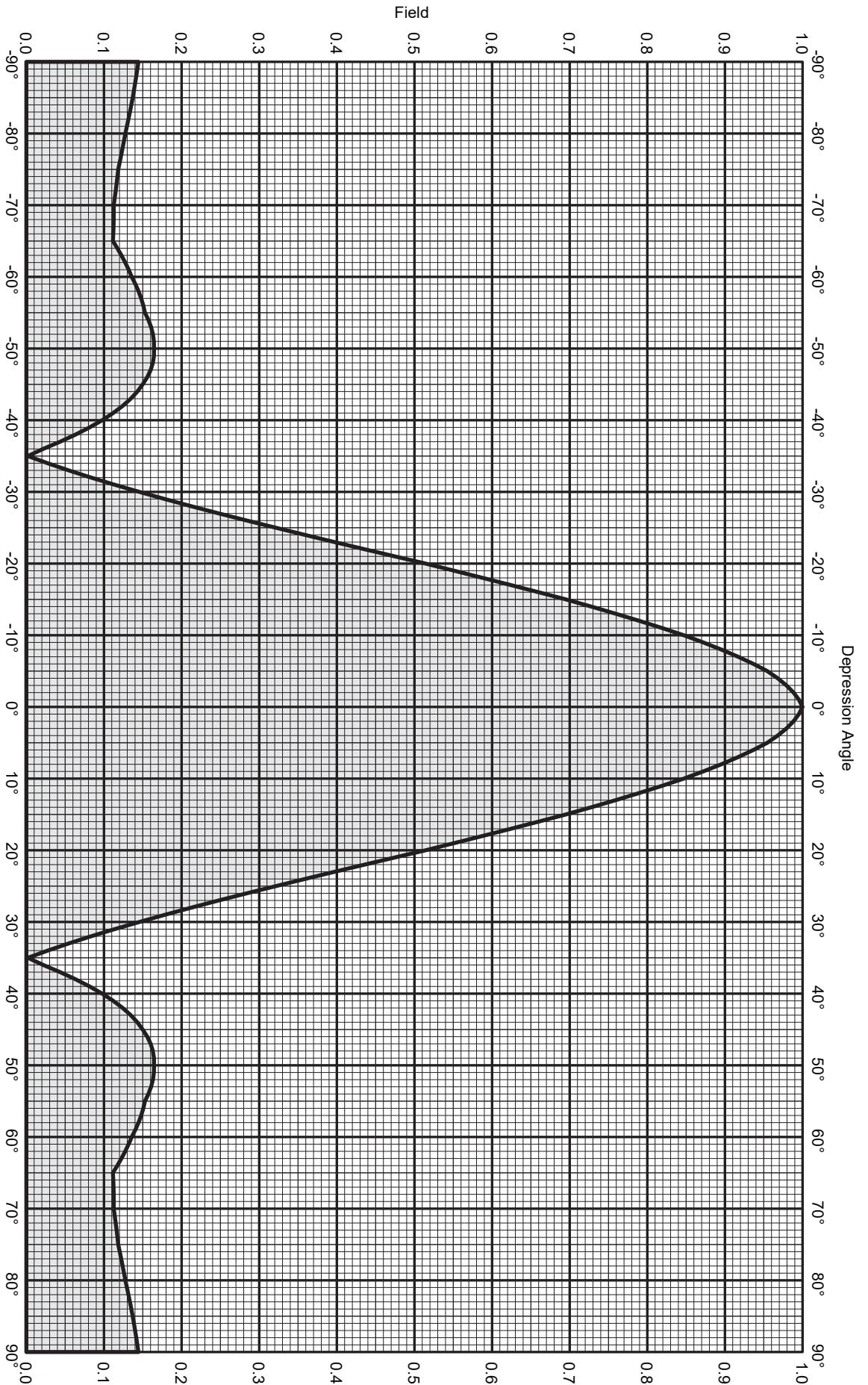


Three CA5-FM/CP/RM/50N Yagi Antennas
 Oriented at 110, 180, 250 degrees
 Frequency: 104.7 MHz
 Gain: 3.6 dBd (x 2.3)

Circular Polarization
 Vertical stacked 0.87 wavelength
 Horizontal plane Pattern
 WKAQ-FM1

Angle	Field	Rel.dB	dBd	PwrMult	Angle	Field	Rel.dB	dBd	PwrMult
0	0.392	-8.13	-4.53	0.35	180	0.877	-1.14	2.46	1.76
5	0.387	-8.24	-4.64	0.34	185	0.871	-1.20	2.40	1.74
10	0.369	-8.65	-5.05	0.31	190	0.888	-1.03	2.57	1.81
15	0.342	-9.31	-5.71	0.27	195	0.907	-0.85	2.75	1.89
20	0.316	-9.99	-6.39	0.23	200	0.936	-0.58	3.02	2.01
25	0.289	-10.77	-7.17	0.19	205	0.961	-0.34	3.26	2.12
30	0.277	-11.16	-7.56	0.18	210	0.988	-0.11	3.49	2.24
35	0.269	-11.42	-7.82	0.17	215	1.000	0.00	3.60	2.29
40	0.271	-11.33	-7.73	0.17	220	0.992	-0.07	3.53	2.25
45	0.284	-10.94	-7.34	0.18	225	0.970	-0.26	3.34	2.16
50	0.339	-9.40	-5.80	0.26	230	0.945	-0.49	3.11	2.05
55	0.396	-8.06	-4.46	0.36	235	0.911	-0.81	2.79	1.90
60	0.472	-6.52	-2.92	0.51	240	0.887	-1.04	2.56	1.80
65	0.550	-5.20	-1.60	0.69	245	0.863	-1.28	2.32	1.71
70	0.628	-4.03	-0.43	0.90	250	0.870	-1.21	2.39	1.73
75	0.696	-3.15	0.45	1.11	255	0.861	-1.30	2.30	1.70
80	0.748	-2.52	1.08	1.28	260	0.850	-1.41	2.19	1.66
85	0.786	-2.09	1.51	1.42	265	0.837	-1.55	2.05	1.60
90	0.819	-1.74	1.86	1.54	270	0.819	-1.74	1.86	1.54
95	0.837	-1.55	2.05	1.60	275	0.786	-2.09	1.51	1.42
100	0.850	-1.41	2.19	1.66	280	0.748	-2.52	1.08	1.28
105	0.861	-1.30	2.30	1.70	285	0.696	-3.15	0.45	1.11
110	0.870	-1.21	2.39	1.73	290	0.628	-4.03	-0.43	0.90
115	0.863	-1.28	2.32	1.71	295	0.550	-5.20	-1.60	0.69
120	0.887	-1.04	2.56	1.80	300	0.472	-6.52	-2.92	0.51
125	0.911	-0.81	2.79	1.90	305	0.396	-8.06	-4.46	0.36
130	0.945	-0.49	3.11	2.05	310	0.339	-9.40	-5.80	0.26
135	0.970	-0.26	3.34	2.16	315	0.284	-10.94	-7.34	0.18
140	0.992	-0.07	3.53	2.25	320	0.271	-11.33	-7.73	0.17
145	1.000	0.00	3.60	2.29	325	0.269	-11.42	-7.82	0.17
150	0.988	-0.11	3.49	2.24	330	0.277	-11.16	-7.56	0.18
155	0.961	-0.34	3.26	2.12	335	0.289	-10.77	-7.17	0.19
160	0.936	-0.58	3.02	2.01	340	0.316	-9.99	-6.39	0.23
165	0.907	-0.85	2.75	1.89	345	0.342	-9.31	-5.71	0.27
170	0.888	-1.03	2.57	1.81	350	0.369	-8.65	-5.05	0.31
175	0.871	-1.20	2.40	1.74	355	0.387	-8.24	-4.64	0.34

EXHIBIT 11 - FIGURE 3 (PAGE 3 OF 7) WKAQ-FM1 ANTENNA DATA



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Three CA5-FM/CP/RM/50N Yagi Antennas

Oriented at 110, 180, 250 degrees

Frequency: 104.7 MHz

Gain: 3.6 dBd (x 2.3)

Circular Polarization

Vertical Stacked 0.87 wavelength

Vertical plane Pattern

WKAQ-FM1

EXHIBIT 11 - FIGURE 3 (PAGE 4 OF 7) WKAQ-FM1 ANTENNA DATA



Three CA5-FM/CP/RM/50N Yagi Antennas
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Angle	Field	Rel.dB	dBd	PwrMult	Angle	Field	Rel.dB	dBd	PwrMult
-90	0.144	-16.81	-13.21	0.05	-45	0.150	-16.49	-12.89	0.05
-89	0.143	-16.89	-13.29	0.05	-44	0.143	-16.89	-13.29	0.05
-88	0.142	-16.98	-13.38	0.05	-43	0.134	-17.43	-13.83	0.04
-87	0.140	-17.07	-13.47	0.04	-42	0.124	-18.13	-14.53	0.04
-86	0.139	-17.16	-13.56	0.04	-41	0.112	-19.03	-15.43	0.03
-85	0.137	-17.26	-13.66	0.04	-40	0.098	-20.20	-16.60	0.02
-84	0.135	-17.38	-13.78	0.04	-39	0.082	-21.78	-18.18	0.02
-83	0.133	-17.50	-13.90	0.04	-38	0.063	-23.95	-20.35	0.01
-82	0.131	-17.62	-14.02	0.04	-37	0.044	-27.23	-23.63	0.00
-81	0.130	-17.75	-14.15	0.04	-36	0.022	-33.27	-29.67	0.00
-80	0.128	-17.89	-14.29	0.04	-35	0.010	-40.00	-36.40	0.00
-79	0.126	-18.00	-14.40	0.04	-34	0.027	-31.23	-27.63	0.00
-78	0.124	-18.13	-14.53	0.04	-33	0.055	-25.26	-21.66	0.01
-77	0.122	-18.26	-14.66	0.03	-32	0.083	-21.58	-17.98	0.02
-76	0.120	-18.39	-14.79	0.03	-31	0.114	-18.88	-15.28	0.03
-75	0.118	-18.54	-14.94	0.03	-30	0.146	-16.73	-13.13	0.05
-74	0.117	-18.61	-15.01	0.03	-29	0.179	-14.97	-11.37	0.07
-73	0.116	-18.69	-15.09	0.03	-28	0.213	-13.45	-9.85	0.10
-72	0.115	-18.78	-15.18	0.03	-27	0.248	-12.12	-8.52	0.14
-71	0.114	-18.87	-15.27	0.03	-26	0.284	-10.93	-7.33	0.18
-70	0.113	-18.97	-15.37	0.03	-25	0.321	-9.86	-6.26	0.24
-69	0.113	-18.97	-15.37	0.03	-24	0.359	-8.90	-5.30	0.30
-68	0.113	-18.97	-15.37	0.03	-23	0.397	-8.02	-4.42	0.36
-67	0.112	-18.99	-15.39	0.03	-22	0.436	-7.21	-3.61	0.44
-66	0.112	-19.02	-15.42	0.03	-21	0.475	-6.47	-2.87	0.52
-65	0.112	-19.05	-15.45	0.03	-20	0.514	-5.77	-2.17	0.61
-64	0.117	-18.62	-15.02	0.03	-19	0.551	-5.17	-1.57	0.70
-63	0.122	-18.24	-14.64	0.03	-18	0.588	-4.61	-1.01	0.79
-62	0.127	-17.90	-14.30	0.04	-17	0.624	-4.09	-0.49	0.89
-61	0.132	-17.60	-14.00	0.04	-16	0.660	-3.61	-0.01	1.00
-60	0.136	-17.34	-13.74	0.04	-15	0.695	-3.16	0.44	1.11
-59	0.140	-17.05	-13.45	0.05	-14	0.728	-2.76	0.84	1.21
-58	0.144	-16.80	-13.20	0.05	-13	0.759	-2.39	1.21	1.32
-57	0.148	-16.60	-13.00	0.05	-12	0.790	-2.05	1.55	1.43
-56	0.151	-16.44	-12.84	0.05	-11	0.819	-1.73	1.87	1.54
-55	0.153	-16.32	-12.72	0.05	-10	0.847	-1.44	2.16	1.64
-54	0.157	-16.07	-12.47	0.06	-9	0.872	-1.19	2.41	1.74
-53	0.161	-15.88	-12.28	0.06	-8	0.895	-0.96	2.64	1.84
-52	0.163	-15.75	-12.15	0.06	-7	0.917	-0.75	2.85	1.93
-51	0.164	-15.68	-12.08	0.06	-6	0.937	-0.57	3.03	2.01
-50	0.164	-15.68	-12.08	0.06	-5	0.955	-0.40	3.20	2.09
-49	0.164	-15.68	-12.08	0.06	-4	0.968	-0.28	3.32	2.15
-48	0.163	-15.76	-12.16	0.06	-3	0.979	-0.18	3.42	2.20
-47	0.160	-15.91	-12.31	0.06	-2	0.988	-0.10	3.50	2.24
-46	0.156	-16.15	-12.55	0.06	-1	0.995	-0.04	3.56	2.27
					0	1.000	0.00	3.60	2.29

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Oriented at 110, 180, 250 degrees

Frequency: 104.7 MHz

Gain: 3.6 dBd (x 2.3)

Circular Polarization

Vertical Stacked 0.87 wavelength

Vertical plane Pattern

WKAQ-FM1

Angle	Field	Rel.dB	dBd	PwrMult	Angle	Field	Rel.dB	dBd	PwrMult
0	1.000	0.00	3.60	2.29	45	0.150	-16.49	-12.89	0.05
1	0.995	-0.04	3.56	2.27	46	0.156	-16.15	-12.55	0.06
2	0.988	-0.10	3.50	2.24	47	0.160	-15.91	-12.31	0.06
3	0.979	-0.18	3.42	2.20	48	0.163	-15.76	-12.16	0.06
4	0.968	-0.28	3.32	2.15	49	0.164	-15.68	-12.08	0.06
5	0.955	-0.40	3.20	2.09	50	0.164	-15.68	-12.08	0.06
6	0.937	-0.57	3.03	2.01	51	0.164	-15.68	-12.08	0.06
7	0.917	-0.75	2.85	1.93	52	0.163	-15.75	-12.15	0.06
8	0.895	-0.96	2.64	1.84	53	0.161	-15.88	-12.28	0.06
9	0.872	-1.19	2.41	1.74	54	0.157	-16.07	-12.47	0.06
10	0.847	-1.44	2.16	1.64	55	0.153	-16.32	-12.72	0.05
11	0.819	-1.73	1.87	1.54	56	0.151	-16.44	-12.84	0.05
12	0.790	-2.05	1.55	1.43	57	0.148	-16.60	-13.00	0.05
13	0.759	-2.39	1.21	1.32	58	0.144	-16.80	-13.20	0.05
14	0.728	-2.76	0.84	1.21	59	0.140	-17.05	-13.45	0.05
15	0.695	-3.16	0.44	1.11	60	0.136	-17.34	-13.74	0.04
16	0.660	-3.61	-0.01	1.00	61	0.132	-17.60	-14.00	0.04
17	0.624	-4.09	-0.49	0.89	62	0.127	-17.90	-14.30	0.04
18	0.588	-4.61	-1.01	0.79	63	0.122	-18.24	-14.64	0.03
19	0.551	-5.17	-1.57	0.70	64	0.117	-18.62	-15.02	0.03
20	0.514	-5.77	-2.17	0.61	65	0.112	-19.05	-15.45	0.03
21	0.475	-6.47	-2.87	0.52	66	0.112	-19.02	-15.42	0.03
22	0.436	-7.21	-3.61	0.44	67	0.112	-18.99	-15.39	0.03
23	0.397	-8.02	-4.42	0.36	68	0.113	-18.97	-15.37	0.03
24	0.359	-8.90	-5.30	0.30	69	0.113	-18.97	-15.37	0.03
25	0.321	-9.86	-6.26	0.24	70	0.113	-18.97	-15.37	0.03
26	0.284	-10.93	-7.33	0.19	71	0.114	-18.87	-15.27	0.03
27	0.248	-12.12	-8.52	0.14	72	0.115	-18.78	-15.18	0.03
28	0.213	-13.45	-9.85	0.10	73	0.116	-18.69	-15.09	0.03
29	0.179	-14.96	-11.36	0.07	74	0.117	-18.61	-15.01	0.03
30	0.146	-16.73	-13.13	0.05	75	0.118	-18.54	-14.94	0.03
31	0.114	-18.88	-15.28	0.03	76	0.120	-18.39	-14.79	0.03
32	0.083	-21.58	-17.98	0.02	77	0.122	-18.26	-14.66	0.03
33	0.055	-25.26	-21.66	0.01	78	0.124	-18.13	-14.53	0.04
34	0.027	-31.23	-27.63	0.00	79	0.126	-18.00	-14.40	0.04
35	0.010	-40.00	-36.40	0.00	80	0.128	-17.89	-14.29	0.04
36	0.022	-33.27	-29.67	0.00	81	0.130	-17.75	-14.15	0.04
37	0.044	-27.23	-23.63	0.00	82	0.131	-17.62	-14.02	0.04
38	0.063	-23.95	-20.35	0.01	83	0.133	-17.50	-13.90	0.04
39	0.082	-21.78	-18.18	0.02	84	0.135	-17.38	-13.78	0.04
40	0.098	-20.20	-16.60	0.02	85	0.137	-17.26	-13.66	0.04
41	0.112	-19.03	-15.43	0.03	86	0.139	-17.16	-13.56	0.04
42	0.124	-18.13	-14.53	0.04	87	0.140	-17.07	-13.47	0.04
43	0.134	-17.43	-13.83	0.04	88	0.142	-16.98	-13.38	0.05
44	0.143	-16.89	-13.29	0.05	89	0.143	-16.89	-13.29	0.05
					90	0.144	-16.81	-13.21	0.05

EXHIBIT 11 - FIGURE 3 (PAGE 6 OF 7) WKAQ-FM1 ANTENNA DATA



CA5-FM/CP/RM FM YAGI ANTENNA

6 dBd gain
88 to 108 MHz
Circularly polarized

The Scala CA5-FM/CP/RM is a ruggedly built yagi antenna, designed for professional FM transmit and receive applications.

Like all Scala antennas, the CA5-FM/CP/RM is made of the finest materials resulting in superior performance and long service life.

The CA5-FM/CP/RM may be used stand-alone or in stacked arrays for higher gain, increased side-lobe suppression, or custom azimuth patterns.

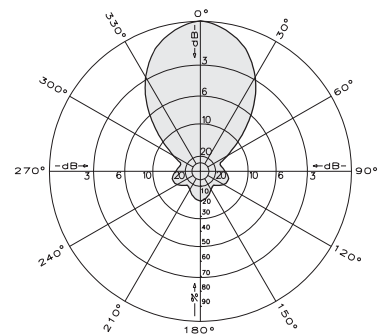
Specifications:

Frequency range	Any specified FM channel 88 to 108 MHz
Gain	6 dBd
Impedance	50 ohms
VSWR	< 1.5:1
Polarization	Circular
Front-to-back ratio	>14 dB
Maximum input power	250 watts
Azimuth pattern	61 degrees (half-power)
Elevation pattern	61 degrees (half-power)
Connector	N female
Weight	35 lb (15.9 kg)
Dimensions	79 x 56 x 50.8 inches maximum (2007 x 1422 x 1290 mm)
Equivalent flat plate area	2.84 ft ² (0.264 m ²) maximum
Wind survival rating*	120 mph (194 kph)
Shipping dimensions	84 x 13 x 8 inches maximum (2134 x 330 x 203 mm)
Shipping weight	38 lb (8.2 kg) maximum
Mounting	For masts of 2.375 inches (60 mm) OD.

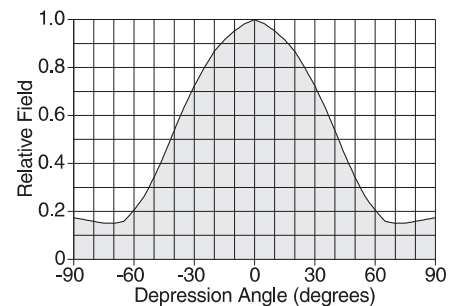
* Mechanical design is based on environmental conditions as stipulated in EIA-222-F (June 1996) and/or ETS 300 019-1-4 which include the static mechanical load imposed on an antenna by wind at maximum velocity. See the Engineering Section of the catalog for further details.

Order Information:

Contact Scala Customer Service for detailed order information.



Azimuth pattern (E-plane)



Elevation pattern (H-plane)



10748-B



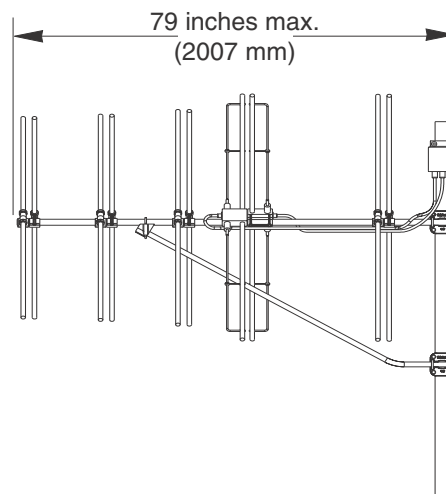
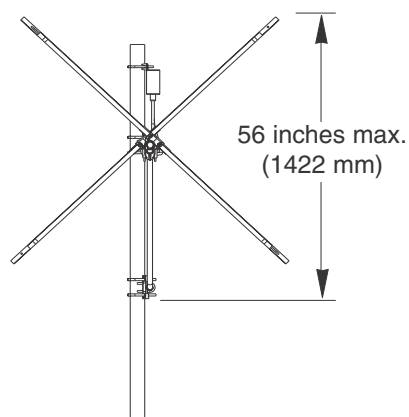
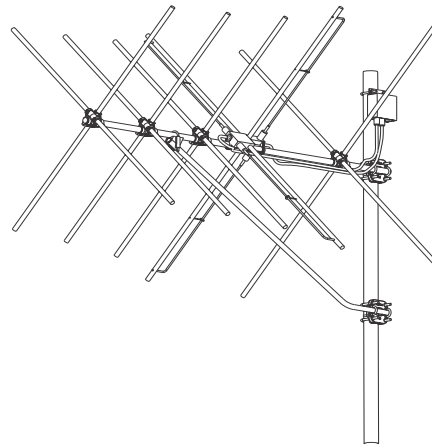
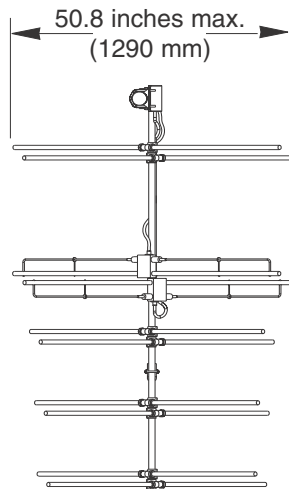
CA5-FM/CP/RM

FM YAGI ANTENNA

6 dBd gain

88 to 108 MHz

Circularly polarized



Order Information:

Contact Scala Customer Service for detailed order information.

All specifications are subject to change without notice

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