**TECHNICAL STATEMENT**
**B&C COMMUNICATIONS, LLC**
**WPAN 84 KW-DA 219 M HAAT CH. 31**
**FORT WALTON BEACH, FLORIDA**

B&C Communications, LLC, the licensee of digital television station WPAN, Facility ID No. 31570, proposes construction of the WPAN post-auction facility on Channel 31. Reassignment from Channel 40 to Channel 31 was specified in the *Channel Reassignment Public Notice* ("CRPN"), DA 17-314, released on April 13, 2017. The licensee seeks authority to operate WPAN on the reassigned channel using a new directional antenna side mounted on the station's current antenna-supporting structure at a significantly lower elevation than specified in the CRPN, which is a reduction that the tower owner is requiring. Because an increase in the assigned effective radiated power (ERP) is necessary to minimize coverage population and area loss, it is proposed that WPAN will operate on Channel 31 with 84 kW ERP at an antenna height of 125.3 meters above mean sea level (AMSL). A resultant antenna radiation center height above average terrain (HAAT) of 219 meters was calculated using the *TVStudy* analysis software.

As indicated above, the licensee proposes to replace the antenna that WPAN currently employs in order to accommodate the channel reassignment. The new antenna will be a horizontally polarized directional Dielectric Model TFU-10DSC P230 and a copy of the azimuth pattern is attached as Figure 1. This antenna has a directional pattern that is similar to WPAN's licensed pattern, which was used by the FCC in reassigning this station to Channel 31. Although the licensee was unable to match the relative field values associated with the licensed pattern due to the change in frequency, the proposed operation at 84 kW ERP based on the new antenna pattern does not exceed the permissible contour coverage area as defined by the technical parameters specified in the CRPN in any direction. A side-by-side comparison of those coverage contour distances is provided in Figure 2. As stated before, no change in the antenna-supporting structure is proposed.[1]

It should be noted that the TVStudy analysis results indicate that more than a 0.5 percent of new interference is predicted to WEIQ in Mobile, AL based on the baseline

[1] The geographic site coordinates of the license facility are 30-24-09.72 N, 86-59-34.87 W (NAD83). The licensed facility is associated with Antenna Structure Registration No. 1058824, which specifies the site coordinates as 30-24-13.4 N, 86-59-33.8 W (NAD83). The ASR site elevation is 11.0 meters AMSL.

parameters for its reassignment to Channel 30. Nevertheless, WPAN is entitled to serve the coverage area associated with its reassigned channel and, therefore, the licensee respectfully requests waivers of 47 CFR §§ 73.616 and 73.3700(b) in order to maintain its allotted coverage area.

The aforementioned antenna height of 125.3 meters AMSL was determined based on the ASR site elevation of 11.0 meters and the proposed height of the new antenna radiation center of 114.3 meters above ground level (AGL). Because the proposed facility will closely match the permissible contour established by the technical parameters in the CRPN, the resulting interference-free service population will not be less than 95 percent.[2]

The construction permit application specifies an existing FCC registered tower that was constructed before March 16, 2001.[3] Given that the specified antenna replacement does not result in a substantial increase in the size of the existing antenna-supporting structure,[4] the criteria outlined in 47 CFR § 1.1307(a) for certain types of facilities that may significantly affect the environment do not apply. With regard to the rules for limiting human exposure to radio-frequency (RF) energy in 47 CFR § 1.1307(b), this application seeks authority to operate a television broadcast antenna in full compliance with those guidelines as described in greater detail below. The following technical specifications are proposed:

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[2] The technical parameters specified in the CRPN result in an interference-free coverage area of 636,684 people and 11,997.6 sq.km. The proposed interference-free coverage area amounts to 623,116 people and 11,143.7 sq.km.

[3] 47 CFR Part 1, App. B, § III.A. *"An antenna may be mounted on an existing tower constructed on or before March 16, 2001 without such collocation being reviewed through the Section 106 process set forth in the NPA, unless: 1. The mounting of the antenna will result in a substantial increase in the size of the tower as defined in Stipulation I.E, above; or, 2. The tower has been determined by the FCC to have an adverse effect on one or more historic properties, where such effect has not been avoided or mitigated through a conditional no adverse effect determination, a Memorandum of Agreement, a programmatic agreement, or a finding of compliance with Section 106 and the NPA; or, 3. The tower is the subject of a pending environmental review or related proceeding before the FCC involving compliance with Section 106 of the National Historic Preservation Act; or, 4. The collocation licensee or the owner of the tower has received written or electronic notification that the FCC is in receipt of a complaint from a member of the public, an Indian Tribe, a SHPO or the Council, that the collocation has an adverse effect on one or more historic properties. Any such complaint must be in writing and supported by substantial evidence describing how the effect from the collocation is adverse to the attributes that qualify any affected historic property for eligibility or potential eligibility for the National Register."*

[4] 47 CFR Part 1, App. B, § I.C. A substantial increase in size means: "*(1) The mounting of the proposed antenna on the tower would increase the existing height of the tower by more than 10%, or by the height of one additional antenna array with separation from the nearest existing antenna not to exceed twenty feet, whichever is greater, except that the mounting of the proposed antenna may exceed the size limits set forth in this paragraph if necessary to avoid interference with existing antennas; or (2) The mounting of the proposed antenna would involve the installation of more than the standard number of new equipment cabinets for the technology involved, not to exceed four, or more than one new equipment shelter; or (3) The mounting of the proposed antenna would involve adding an appurtenance to the body of the tower that would protrude from the edge of the tower more than twenty feet, or more than the width of the tower structure at the level of the appurtenance, whichever is greater, except that the mounting of the proposed antenna may exceed the size limits set forth in this paragraph if necessary to shelter the antenna from inclement weather or to connect the antenna to the tower via cable; or (4) The mounting of the proposed antenna would involve excavation outside the current tower site, defined as the current boundaries of the leased or owned property surrounding the tower and any access or utility easements currently related to the site."*

| | |
|---|---|
| Frequency : | 572 - 578 MHz (UHF Channel 31) |
| Effective Radiated Power: | 84 kW(H) |
| Antenna Type: | DIE TFU-10DSC P230 |
| Antenna Polarization: | Horizontal |
| Antenna Height: | 114.3 meters AGL |
| Location coordinates: | 30-24-13.4 N, 86-59-33.8 W (NAD83) |
| Site elevation: | 11.0 meters AMSL |
| Overall tower height: | 217.3 meters AGL |
| FCC ASRN: | 1058824; Construct in 1986 |

Using the methodology for predicting power density levels for television broadcast antennas outlined in *FCC OET Bulletin No. 65, Edition 97-01,* (OET-65), the proposed facility is calculated to produce a maximum power density of 2.23 μW/cm² at points 2 meters above ground (approximate human head height). This exposure level was determined using 10 percent antenna relative field, which is considered to be a typical value for UHF antennas. The maximum exposure limits applicable to Channel 31, as determined in accordance with 47 CFR § 1.1310 for uncontrolled and controlled situations, are 381 μW/cm² and 1,907 μW/cm² respectively. Because the worst-case exposure level determined for the proposed facility is not more than 5% of those guidelines and considering that the base of the tower is fenced and suitable warning signs are posted, no further showing of compliance is necessary. Accordingly, this application complies with the RF exposure limits and is categorically excluded from environmental processing by 47 CFR § 1.1306.

Steps to limit exposure to persons authorized to access the transmitter site will be consistent with the appropriate recommendations in OET-65. All maintenance and other related work to be performed at elevations higher than 2 meters above ground will be coordinated to prevent exposure to RF fields in excess of the controlled limit. Such preventative steps shall include reducing power or shutting down the facility.

Respectfully submitted,

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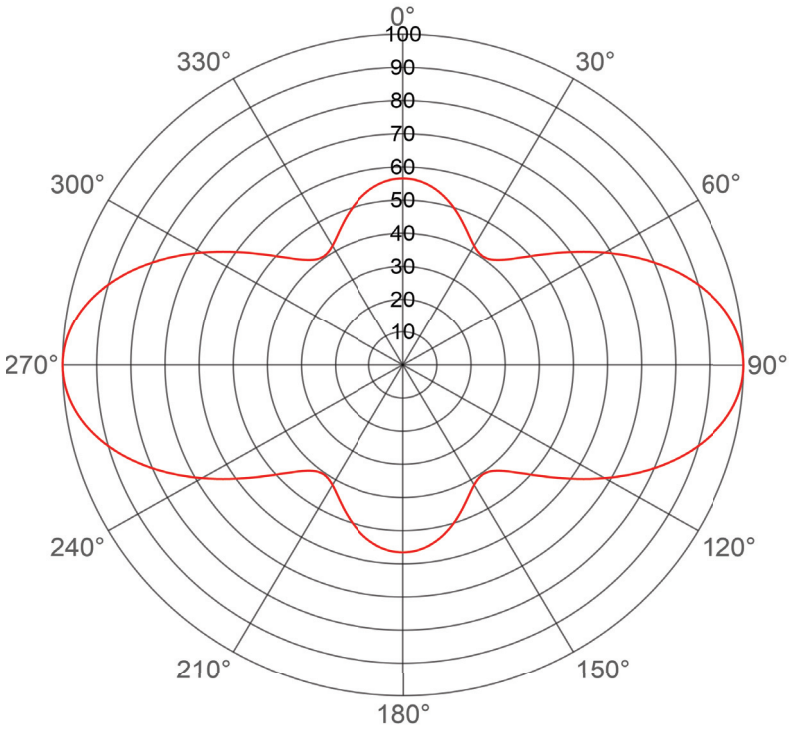
July 12, 2017




# Horizontal Polarization
# AZIMUTH PATTERN

| | |
|---|---|
| Exhibit No. | **C-70940** |
| Date | **11 Jul 2017** |
| Call Letters | **WPAN** |
| Channel | **31** |
| Antenna Type | **TFU-10DSC P230** |
| Location | **Fort Walton Beach, FL** |
| Customer | **B&C Communications** |
| Gain | **2.3 (3.62 dB)** |
| | **Calculated** |
| Drawing # | **TFU-P230** |

| Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value | Deg | Value |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.566 | 36 | 0.406 | 72 | 0.872 | 108 | 0.872 | 144 | 0.406 | 180 | 0.566 | 216 | 0.406 | 252 | 0.872 | 288 | 0.872 | 324 | 0.406 |
| 1 | 0.565 | 37 | 0.407 | 73 | 0.885 | 109 | 0.858 | 145 | 0.405 | 181 | 0.565 | 217 | 0.407 | 253 | 0.885 | 289 | 0.858 | 325 | 0.405 |
| 2 | 0.565 | 38 | 0.409 | 74 | 0.897 | 110 | 0.844 | 146 | 0.406 | 182 | 0.565 | 218 | 0.409 | 254 | 0.897 | 290 | 0.844 | 326 | 0.406 |
| 3 | 0.563 | 39 | 0.413 | 75 | 0.909 | 111 | 0.830 | 147 | 0.408 | 183 | 0.563 | 219 | 0.413 | 255 | 0.909 | 291 | 0.830 | 327 | 0.408 |
| 4 | 0.562 | 40 | 0.417 | 76 | 0.921 | 112 | 0.815 | 148 | 0.410 | 184 | 0.562 | 220 | 0.417 | 256 | 0.921 | 292 | 0.815 | 328 | 0.410 |
| 5 | 0.560 | 41 | 0.423 | 77 | 0.931 | 113 | 0.799 | 149 | 0.414 | 185 | 0.560 | 221 | 0.423 | 257 | 0.931 | 293 | 0.799 | 329 | 0.414 |
| 6 | 0.557 | 42 | 0.430 | 78 | 0.941 | 114 | 0.783 | 150 | 0.418 | 186 | 0.557 | 222 | 0.430 | 258 | 0.941 | 294 | 0.783 | 330 | 0.418 |
| 7 | 0.554 | 43 | 0.438 | 79 | 0.950 | 115 | 0.767 | 151 | 0.423 | 187 | 0.554 | 223 | 0.438 | 259 | 0.950 | 295 | 0.767 | 331 | 0.423 |
| 8 | 0.551 | 44 | 0.447 | 80 | 0.959 | 116 | 0.751 | 152 | 0.428 | 188 | 0.551 | 224 | 0.447 | 260 | 0.959 | 296 | 0.751 | 332 | 0.428 |
| 9 | 0.547 | 45 | 0.457 | 81 | 0.967 | 117 | 0.734 | 153 | 0.434 | 189 | 0.547 | 225 | 0.457 | 261 | 0.967 | 297 | 0.734 | 333 | 0.434 |
| 10 | 0.542 | 46 | 0.468 | 82 | 0.973 | 118 | 0.717 | 154 | 0.440 | 190 | 0.542 | 226 | 0.468 | 262 | 0.973 | 298 | 0.717 | 334 | 0.440 |
| 11 | 0.538 | 47 | 0.480 | 83 | 0.980 | 119 | 0.700 | 155 | 0.447 | 191 | 0.538 | 227 | 0.480 | 263 | 0.980 | 299 | 0.700 | 335 | 0.447 |
| 12 | 0.533 | 48 | 0.493 | 84 | 0.985 | 120 | 0.683 | 156 | 0.454 | 192 | 0.533 | 228 | 0.493 | 264 | 0.985 | 300 | 0.683 | 336 | 0.454 |
| 13 | 0.527 | 49 | 0.506 | 85 | 0.990 | 121 | 0.666 | 157 | 0.461 | 193 | 0.527 | 229 | 0.506 | 265 | 0.990 | 301 | 0.666 | 337 | 0.461 |
| 14 | 0.521 | 50 | 0.520 | 86 | 0.993 | 122 | 0.649 | 158 | 0.468 | 194 | 0.521 | 230 | 0.520 | 266 | 0.993 | 302 | 0.649 | 338 | 0.468 |
| 15 | 0.515 | 51 | 0.535 | 87 | 0.996 | 123 | 0.632 | 159 | 0.475 | 195 | 0.515 | 231 | 0.535 | 267 | 0.996 | 303 | 0.632 | 339 | 0.475 |
| 16 | 0.509 | 52 | 0.550 | 88 | 0.998 | 124 | 0.615 | 160 | 0.482 | 196 | 0.509 | 232 | 0.550 | 268 | 0.998 | 304 | 0.615 | 340 | 0.482 |
| 17 | 0.503 | 53 | 0.566 | 89 | 1.000 | 125 | 0.599 | 161 | 0.489 | 197 | 0.503 | 233 | 0.566 | 269 | 1.000 | 305 | 0.599 | 341 | 0.489 |
| 18 | 0.496 | 54 | 0.582 | 90 | 1.000 | 126 | 0.582 | 162 | 0.496 | 198 | 0.496 | 234 | 0.582 | 270 | 1.000 | 306 | 0.582 | 342 | 0.496 |
| 19 | 0.489 | 55 | 0.599 | 91 | 1.000 | 127 | 0.566 | 163 | 0.503 | 199 | 0.489 | 235 | 0.599 | 271 | 1.000 | 307 | 0.566 | 343 | 0.503 |
| 20 | 0.482 | 56 | 0.615 | 92 | 0.998 | 128 | 0.550 | 164 | 0.509 | 200 | 0.482 | 236 | 0.615 | 272 | 0.998 | 308 | 0.550 | 344 | 0.509 |
| 21 | 0.475 | 57 | 0.632 | 93 | 0.996 | 129 | 0.535 | 165 | 0.515 | 201 | 0.475 | 237 | 0.632 | 273 | 0.996 | 309 | 0.535 | 345 | 0.515 |
| 22 | 0.468 | 58 | 0.649 | 94 | 0.993 | 130 | 0.520 | 166 | 0.521 | 202 | 0.468 | 238 | 0.649 | 274 | 0.993 | 310 | 0.520 | 346 | 0.521 |
| 23 | 0.461 | 59 | 0.666 | 95 | 0.990 | 131 | 0.506 | 167 | 0.527 | 203 | 0.461 | 239 | 0.666 | 275 | 0.990 | 311 | 0.506 | 347 | 0.527 |
| 24 | 0.454 | 60 | 0.683 | 96 | 0.985 | 132 | 0.493 | 168 | 0.533 | 204 | 0.454 | 240 | 0.683 | 276 | 0.985 | 312 | 0.493 | 348 | 0.533 |
| 25 | 0.447 | 61 | 0.700 | 97 | 0.980 | 133 | 0.480 | 169 | 0.538 | 205 | 0.447 | 241 | 0.700 | 277 | 0.980 | 313 | 0.480 | 349 | 0.538 |
| 26 | 0.440 | 62 | 0.717 | 98 | 0.973 | 134 | 0.468 | 170 | 0.542 | 206 | 0.440 | 242 | 0.717 | 278 | 0.973 | 314 | 0.468 | 350 | 0.542 |
| 27 | 0.434 | 63 | 0.734 | 99 | 0.967 | 135 | 0.457 | 171 | 0.547 | 207 | 0.434 | 243 | 0.734 | 279 | 0.967 | 315 | 0.457 | 351 | 0.547 |
| 28 | 0.428 | 64 | 0.751 | 100 | 0.959 | 136 | 0.447 | 172 | 0.551 | 208 | 0.428 | 244 | 0.751 | 280 | 0.959 | 316 | 0.447 | 352 | 0.551 |
| 29 | 0.423 | 65 | 0.767 | 101 | 0.950 | 137 | 0.438 | 173 | 0.554 | 209 | 0.423 | 245 | 0.767 | 281 | 0.950 | 317 | 0.438 | 353 | 0.554 |
| 30 | 0.418 | 66 | 0.783 | 102 | 0.941 | 138 | 0.430 | 174 | 0.557 | 210 | 0.418 | 246 | 0.783 | 282 | 0.941 | 318 | 0.430 | 354 | 0.557 |
| 31 | 0.414 | 67 | 0.799 | 103 | 0.931 | 139 | 0.423 | 175 | 0.560 | 211 | 0.414 | 247 | 0.799 | 283 | 0.931 | 319 | 0.423 | 355 | 0.560 |
| 32 | 0.410 | 68 | 0.815 | 104 | 0.921 | 140 | 0.417 | 176 | 0.562 | 212 | 0.410 | 248 | 0.815 | 284 | 0.921 | 320 | 0.417 | 356 | 0.562 |
| 33 | 0.408 | 69 | 0.830 | 105 | 0.909 | 141 | 0.413 | 177 | 0.563 | 213 | 0.408 | 249 | 0.830 | 285 | 0.909 | 321 | 0.413 | 357 | 0.563 |
| 34 | 0.406 | 70 | 0.844 | 106 | 0.897 | 142 | 0.409 | 178 | 0.565 | 214 | 0.406 | 250 | 0.844 | 286 | 0.897 | 322 | 0.409 | 358 | 0.565 |
| 35 | 0.405 | 71 | 0.858 | 107 | 0.885 | 143 | 0.407 | 179 | 0.565 | 215 | 0.405 | 251 | 0.858 | 287 | 0.885 | 323 | 0.407 | 359 | 0.565 |

# FIGURE 2

| | | | | | |
|---|---|---|---|---|---|
| **BASELINE:** | DTVBL31570 | | **CALLSIGN:** | WPAN | |
| **CHANNEL:** | 31 | | **CHANNEL:** | 31 | |
| **ERP(KW):** | 28 | 575 MHz | **ERP(KW):** | 84 | |
| **RCAMSL (M):** | 222.0 | | **RCAMSL (M):** | 125.3 | |

| | BASELINE | | | PROPOSED | | | |
|---|---|---|---|---|---|---|---|
| **Az** | **ERP** | **HAAT** | **40.4 dBu** | **ERP** | **HAAT** | **40.4 dBu** | **Extension** |
| 0 | 15.62 | 221.14 | 63.55 | 26.91 | 124.46 | 59.51 | None |
| 10 | 14.35 | 218.24 | 62.97 | 24.68 | 121.49 | 58.90 | None |
| 20 | 11.08 | 215.35 | 61.56 | 19.52 | 118.51 | 57.59 | None |
| 30 | 7.23 | 212.45 | 59.29 | 14.68 | 115.54 | 56.03 | None |
| 40 | 4.85 | 209.56 | 57.11 | 14.61 | 112.56 | 55.74 | None |
| 50 | 5.85 | 208.96 | 58.01 | 22.71 | 111.88 | 57.71 | None |
| 60 | 10.83 | 210.67 | 61.15 | 39.19 | 113.49 | 60.33 | None |
| 70 | 18.37 | 212.38 | 63.75 | 59.84 | 115.10 | 62.33 | None |
| 80 | 25.22 | 214.09 | 65.31 | 77.25 | 116.71 | 63.60 | None |
| 90 | 28.00 | 215.80 | 65.89 | 84.00 | 118.31 | 64.05 | None |
| 100 | 25.22 | 217.16 | 65.50 | 77.25 | 119.85 | 63.81 | None |
| 110 | 18.37 | 218.52 | 64.14 | 59.84 | 121.38 | 62.83 | None |
| 120 | 10.83 | 219.88 | 61.74 | 39.19 | 122.92 | 61.09 | None |
| 130 | 5.85 | 221.25 | 58.79 | 22.71 | 124.45 | 58.73 | None |
| 140 | 4.85 | 221.93 | 57.89 | 14.61 | 125.22 | 56.73 | None |
| 150 | 7.23 | 221.93 | 59.89 | 14.68 | 125.22 | 56.75 | None |
| 160 | 11.08 | 221.93 | 61.98 | 19.52 | 125.23 | 58.09 | None |
| 170 | 14.35 | 221.94 | 63.20 | 24.68 | 125.23 | 59.17 | None |
| 180 | 15.62 | 221.94 | 63.60 | 26.91 | 125.24 | 59.56 | None |
| 190 | 14.35 | 221.92 | 63.20 | 24.68 | 125.22 | 59.17 | None |
| 200 | 11.08 | 221.89 | 61.97 | 19.52 | 125.19 | 58.08 | None |
| 210 | 7.23 | 221.87 | 59.89 | 14.68 | 125.17 | 56.75 | None |
| 220 | 4.85 | 221.85 | 57.88 | 14.61 | 125.15 | 56.73 | None |
| 230 | 5.85 | 221.86 | 58.83 | 22.71 | 125.15 | 58.78 | None |
| 240 | 10.83 | 221.89 | 61.86 | 39.19 | 125.19 | 61.25 | None |
| 250 | 18.37 | 221.93 | 64.35 | 59.84 | 125.23 | 63.11 | None |
| 260 | 25.22 | 221.96 | 65.80 | 77.25 | 125.26 | 64.20 | None |
| 270 | 28.00 | 222.00 | 66.29 | 84.00 | 125.30 | 64.56 | None |
| 280 | 25.22 | 221.84 | 65.80 | 77.25 | 125.12 | 64.19 | None |
| 290 | 18.37 | 221.68 | 64.33 | 59.84 | 124.95 | 63.09 | None |
| 300 | 10.83 | 221.53 | 61.84 | 39.19 | 124.77 | 61.22 | None |
| 310 | 5.85 | 221.37 | 58.80 | 22.71 | 124.60 | 58.74 | None |
| 320 | 4.85 | 221.27 | 57.84 | 14.61 | 124.51 | 56.68 | None |
| 330 | 7.23 | 221.24 | 59.85 | 14.68 | 124.50 | 56.70 | None |
| 340 | 11.08 | 221.21 | 61.93 | 19.52 | 124.49 | 58.03 | None |
| 350 | 14.35 | 221.17 | 63.16 | 24.68 | 124.47 | 59.11 | None |