

# RADIOTECHNIQUES

402 Tenth Avenue • PO Box 367 • Haddon Heights, NJ 08035

## Engineering Report - PSRA Permissible Fields Foreign Stations - Exhibit 18 Figure 3 WGMM, Tunkhannock, PA, 500 W ND PSRA December 2022

SITE INFO			CLASS	SLANT   DIST	GEOMAG MIDPT	AZIMUTH TO	GND RAD ---	MIN ELEV ---	MAX ELEV ---	MAX RAD ---	SWAVE FLD SWAVE FLD	LIMITATION ALLOWABLE	RSS LIMIT 50% ---	RSS LIMIT 25% ---
BEARING	CALL	LIM												
37.8	CKRB	792.421	B	691.1	55.3	37.8	221.4	14.7	14.7	210.0	0.103981	4.367	32.959	40.227
132.1		38833.710	C	6727.9	29.7	132.1	221.4	0.0	0.0	221.4	0.000258	0.011	4.000	4.000
134.2	ZYH-	35950.571	C	6439.9	30.3	134.2	221.4	0.0	0.0	221.4	0.000278	0.012	4.000	4.000
134.4	ZYH-	41269.268	C	6956.7	28.2	134.4	221.4	0.0	0.0	221.4	0.000242	0.011	4.000	4.000
135.1	ZYH-	33009.506	C	6173.8	31.0	135.1	221.4	0.0	0.0	221.4	0.000303	0.013	4.000	4.000
135.5		36986.829	C	6595.7	29.3	135.5	221.4	0.0	0.0	221.4	0.000270	0.012	4.000	4.000
139.4		34376.193	C	6294.2	29.6	139.4	221.4	0.0	0.0	221.4	0.000291	0.013	4.000	4.000
140.0	ZYI-	36543.671	C	6530.2	28.5	140.0	221.4	0.0	0.0	221.4	0.000274	0.012	4.000	4.032
140.7		40788.522	C	6899.6	26.9	140.7	221.4	0.0	0.0	221.4	0.000245	0.011	4.000	4.000
141.2		99999.000	C	5953.0	30.6	141.2	221.4	0.0	0.0	221.4	0.000325	0.014	10.000	10.000
143.5		41594.840	C	7011.1	25.8	143.5	221.4	0.0	0.0	221.4	0.000240	0.011	4.000	4.000
144.2		41535.194	C	7295.1	24.5	144.2	221.4	0.0	0.0	221.4	0.000241	0.011	4.000	4.000
146.2	ZYL4	48496.943	C	7678.6	22.4	146.2	221.4	0.0	0.0	221.4	0.000206	0.009	4.000	4.180
146.5		40414.842	C	7151.5	24.6	146.5	221.4	0.0	0.0	221.4	0.000247	0.011	4.000	4.000
147.2		99999.000	C	6753.6	26.1	147.2	221.4	0.0	0.0	221.4	0.000255	0.011	10.000	10.000
147.9		99999.000	C	7047.4	24.7	147.9	221.4	0.0	0.0	221.4	0.000242	0.011	10.000	10.000
148.0		99999.000	C	7353.7	23.4	148.0	221.4	0.0	0.0	221.4	0.000235	0.010	10.000	10.000
149.9	ZYK-	99999.000	C	7825.5	21.1	149.9	221.4	0.0	0.0	221.4	0.000199	0.009	4.000	4.778
149.9	ZYL-	48507.662	C	7679.5	21.7	149.9	221.4	0.0	0.0	221.4	0.000206	0.009	4.000	4.928
151.5	ZYH-	99999.000	C	7151.0	23.6	151.5	221.4	0.0	0.0	221.4	0.000247	0.011	10.000	10.000
151.7	ZYK5	48683.116	C	7694.4	21.3	151.7	221.4	0.0	0.0	221.4	0.000205	0.009	4.000	5.190
152.7		47913.092	C	7628.4	21.4	152.7	221.4	0.0	0.0	221.4	0.000209	0.009	4.000	5.089
152.9		99999.000	C	7828.4	20.5	152.9	221.4	0.0	0.0	221.4	0.000199	0.009	4.000	5.041
153.0		99999.000	C	6883.8	24.5	153.0	221.4	0.0	0.0	221.4	0.000246	0.011	10.000	10.000
153.5		39330.856	B	5288.0	31.2	153.5	221.4	0.0	0.0	221.4	0.000413	0.018	6.500	6.500
153.9	ZYI-	99999.000	C	6839.5	24.5	153.9	221.4	0.0	0.0	221.4	0.000248	0.011	10.000	10.000
154.0	ZYJ-	99999.000	C	7978.0	19.6	154.0	221.4	0.0	0.0	221.4	0.000191	0.008	4.000	5.455
154.9	ZYJ-	99999.000	C	8107.7	18.9	154.9	221.4	0.0	0.0	221.4	0.000185	0.008	4.000	5.173
155.3	ZYJ-	99999.000	C	7877.7	19.8	155.3	221.4	0.0	0.0	221.4	0.000196	0.009	4.000	5.646
155.8		99999.000	C	7088.2	23.2	155.8	221.4	0.0	0.0	221.4	0.000244	0.011	10.000	10.000
156.0	ZYJ-	48387.455	C	7669.3	20.6	156.0	221.4	0.0	0.0	221.4	0.000207	0.009	4.000	5.514
156.5	ZYJ-	99999.000	C	8088.3	18.7	156.5	221.4	0.0	0.0	221.4	0.000186	0.008	4.000	5.536
157.3	ZYJ-	46317.792	C	7543.7	21.0	157.3	221.4	0.0	0.0	221.4	0.000216	0.010	4.000	5.149
157.4		47640.480	B	7960.5	19.1	157.4	221.4	0.0	0.0	221.4	0.000192	0.009	3.661	5.578
158.0	ZYJ-	48093.476	C	7644.0	20.4	158.0	221.4	0.0	0.0	221.4	0.000208	0.009	4.000	5.092
158.1		99999.000	C	8481.4	16.8	158.1	221.4	0.0	0.0	221.4	0.000170	0.008	4.000	4.935
158.4	ZYK-	99999.000	C	8069.0	18.5	158.4	221.4	0.0	0.0	221.4	0.000187	0.008	4.000	5.841
158.4		99999.000	C	8290.4	17.5	158.4	221.4	0.0	0.0	221.4	0.000176	0.008	4.000	5.326
158.7	ZYJ2	40109.898	B	7634.7	20.4	158.7	221.4	0.0	0.0	221.4	0.000208	0.009	3.344	4.974
159.9	SYK-	99999.000	C	8029.5	18.5	159.9	221.4	0.0	0.0	221.4	0.000189	0.008	4.000	5.716
160.3	LRH3	99999.000	C	7941.9	18.8	160.3	221.4	0.0	0.0	221.4	0.000193	0.009	4.000	5.627
160.8	ZYK-	99999.000	C	8409.2	16.7	160.8	221.4	0.0	0.0	221.4	0.000170	0.008	4.000	5.357
160.9		99999.000	C	8163.1	17.8	160.9	221.4	0.0	0.0	221.4	0.000182	0.008	4.000	5.346
162.3	CV14	99999.000	C	8611.8	15.6	162.3	221.4	0.0	0.0	221.4	0.000170	0.008	4.000	5.113
163.0	ZYK-	99999.000	C	8166.6	17.5	163.0	221.4	0.0	0.0	221.4	0.000182	0.008	4.000	5.181
163.9	HIAR	8035.860	C	2622.8	41.7	163.9	221.4	0.0	0.0	221.4	0.002003	0.089	6.438	7.407
165.1	CX14	42060.014	B	8595.2	15.3	165.1	221.4	0.0	0.0	221.4	0.000170	0.008	2.860	4.223
165.1	LRH3	99999.000	C	8138.3	17.3	165.1	221.4	0.0	0.0	221.4	0.000183	0.008	4.167	5.263
165.3	LU30	99999.000	C	8859.4	14.1	165.3	221.4	0.0	0.0	221.4	0.000157	0.007	4.000	4.463
166.1	HIAR	8203.806	C	2640.3	41.5	166.1	221.4	0.0	0.0	221.4	0.001971	0.087	6.468	7.449
168.1	LT29	99999.000	C	8498.9	15.4	168.1	221.4	0.0	0.0	221.4	0.000170	0.008	4.080	5.082
169.1	LU34	99999.000	C	8919.8	13.5	169.1	221.4	0.0	0.0	221.4	0.000154	0.007	4.000	4.424
169.5	YVRJ	27223.295	C	3641.6	36.9	169.5	221.4	0.0	0.0	221.4	0.000918	0.041	10.000	10.000

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SITE INFO			CLASS	SLANT   DIST	GEOMAG MIDPT	AZIMUTH TO	GND RAD ---	MIN ELEV ---	MAX ELEV ---	MAX RAD ---	SWAVE FLD SWAVE FLD	LIMITATION ALLOWABLE	RSS LIMIT 50% ---	RSS LIMIT 25% ---
BEARING	CALL	LIM												
170.5	4VEA	7959.920	C	2459.5	42.1	170.5	221.4	0.0	0.0	221.4	0.002352	0.104	7.490	7.831
173.2	OAX7	99999.000	C	6413.6	24.4	173.2	221.4	0.0	0.0	221.4	0.000279	0.012	10.000	10.000
173.5	HJMY	29605.628	C	3776.4	36.1	173.5	221.4	0.0	0.0	221.4	0.000844	0.037	10.000	11.156
174.3	CA 1	34566.528	B	7255.8	20.5	174.3	221.4	0.0	0.0	221.4	0.000245	0.011	3.383	3.618
175.5	CB 1	99999.000	C	8372.2	15.5	175.5	221.4	0.0	0.0	221.4	0.000172	0.008	5.071	5.071
175.6	OBX6	99999.000	C	6526.9	23.7	175.6	221.4	0.0	0.0	221.4	0.000274	0.012	10.000	10.000
176.6	CD 1	48076.923	B	10562.6	5.6	176.6	221.4	0.0	0.0	221.4	0.000130	0.006	2.500	2.500
176.8	HJJW	37514.415	C	4115.0	34.5	176.8	221.4	0.0	0.0	221.4	0.000706	0.031	10.593	11.920
177.7	CC 1	99999.000	C	8712.1	13.9	177.7	221.4	0.0	0.0	221.4	0.000165	0.007	4.000	4.000
178.9	HJAL	26383.733	C	3593.0	36.8	178.9	221.4	0.0	0.0	221.4	0.000948	0.042	10.000	11.045
179.0	OCY4	99999.000	C	5981.2	26.1	179.0	221.4	0.0	0.0	221.4	0.000322	0.014	10.000	10.000
179.6	HJJH	35626.871	C	4125.6	34.4	179.6	221.4	0.0	0.0	221.4	0.000702	0.031	10.000	11.046
180.2	OAX5	99999.000	C	6143.7	25.4	180.2	221.4	0.0	0.0	221.4	0.000306	0.014	10.000	10.000
180.5	HJFL	44280.386	C	4418.1	33.1	180.5	221.4	0.0	0.0	221.4	0.000606	0.027	10.732	12.574
180.5	OAX3	99999.000	C	5708.6	27.3	180.5	221.4	0.0	0.0	221.4	0.000359	0.016	10.000	10.000
181.1	HJTF	32354.903	C	3948.4	35.2	181.1	221.4	0.0	0.0	221.4	0.000773	0.034	10.000	11.699
181.2	HJMN	28690.445	C	3722.6	36.2	181.2	221.4	0.0	0.0	221.4	0.000871	0.039	10.000	11.462
182.0	HJZU	42951.735	C	4497.6	32.8	182.0	221.4	0.0	0.0	221.4	0.000582	0.026	10.000	11.172
183.4	OBX3	99999.000	C	5650.4	27.6	183.4	221.4	0.0	0.0	221.4	0.000365	0.016	10.000	10.000
184.2	HCC1	99999.000	B	4933.2	30.8	184.2	221.4	0.0	0.0	221.4	0.000474	0.021	10.094	11.240
184.5	HCMG	99999.000	C	4991.0	30.5	184.5	221.4	0.0	0.0	221.4	0.000463	0.020	10.694	11.736
184.9	CMHZ	4292.730	C	2227.3	43.0	184.9	221.4	0.0	0.0	221.4	0.003109	0.138	5.338	5.557
185.0	HCC1	99999.000	B	5122.1	30.0	185.0	221.4	0.0	0.0	221.4	0.000446	0.020	9.028	10.525
187.4	OAX1	99999.000	C	5163.2	29.8	187.4	221.4	0.0	0.0	221.4	0.000438	0.019	10.126	11.488
191.8	HOO	21607.681	C	3649.6	36.7	191.8	221.4	0.0	0.0	221.4	0.000914	0.040	7.896	10.071
195.8	TILX	23976.096	B	3576.8	37.2	195.8	221.4	0.0	0.0	221.4	0.000957	0.042	9.181	10.064
201.2	YNRV	14849.593	B	3414.7	38.3	201.2	221.4	0.0	0.0	221.4	0.001064	0.047	6.319	7.370
203.5	HRQX	20758.107	B	3231.3	39.2	203.5	221.4	0.0	0.0	221.4	0.001135	0.050	9.424	10.990
205.4	HRIC	18815.144	C	3086.8	40.0	205.4	221.4	0.0	0.0	221.4	0.001350	0.060	10.158	11.183
208.6	XECP	9702.551	B	2707.4	41.8	208.6	221.4	0.0	0.0	221.4	0.004645	0.206	18.028	22.677
210.0	TGRN	14267.245	B	3052.5	40.5	210.0	221.4	0.0	0.0	221.4	0.001384	0.061	7.899	10.495
215.3	XEUJ	11462.148	B	2966.2	41.3	215.3	221.4	0.0	0.0	221.4	0.003713	0.164	17.023	24.293
222.1	XEKC	18163.564	B	3371.6	40.5	222.1	221.4	0.0	0.0	221.4	0.002756	0.122	20.021	26.640
222.2	XEKC	18263.444	B	3372.6	40.5	222.2	221.4	0.0	0.0	221.4	0.002754	0.122	20.117	26.732
225.2	XEJH	13062.253	B	3153.4	41.8	225.2	221.4	0.0	0.0	221.4	0.003103	0.137	16.215	22.587
225.2	XEJH	13087.698	B	3154.0	41.8	225.2	221.4	0.0	0.0	221.4	0.003100	0.137	16.230	22.597
225.4	XEJH	12891.656	B	3149.8	41.8	225.4	221.4	0.0	0.0	221.4	0.003122	0.138	16.097	22.497
226.8	XEGR	34491.497	B	3567.8	40.4	226.8	221.4	0.0	0.0	221.4	0.002417	0.107	33.351	33.351
230.3	XEOL	10656.541	B	2968.2	43.1	230.3	221.4	0.0	0.0	221.4	0.003707	0.164	15.801	20.945
230.6	XERT	14299.644	B	3310.8	42.0	230.6	221.4	0.0	0.0	221.4	0.002878	0.127	16.462	21.927
230.9	XELX	14601.192	B	3344.1	41.9	230.9	221.4	0.0	0.0	221.4	0.002811	0.124	16.419	21.817
234.9	XEXQ	14105.344	B	3183.2	43.1	234.9	221.4	0.0	0.0	221.4	0.002953	0.131	16.662	22.971
235.0	XEHE	25519.979	B	3421.2	42.3	235.0	221.4	0.0	0.0	221.4	0.002660	0.118	27.151	29.602
239.4	XE00	21235.103	B	3506.1	42.8	239.4	221.4	0.0	0.0	221.4	0.002510	0.111	21.324	23.727
242.6	XE	13082.174	B	3222.9	44.3	242.6	221.4	0.0	0.0	221.4	0.002846	0.126	14.892	18.809
244.5	XEPD	6488.213	B	2756.7	46.0	244.5	221.4	0.0	0.0	221.4	0.004447	0.197	11.540	16.063
247.8	XE	9497.718	B	3086.2	45.7	247.8	221.4	0.0	0.0	221.4	0.003391	0.150	12.881	16.068
253.9	XEHX	10471.554	B	3457.5	45.9	253.9	221.4	0.0	0.0	221.4	0.002596	0.115	10.873	14.735
254.1	XEHX	10495.153	B	3453.2	46.0	254.1	221.4	0.0	0.0	221.4	0.002603	0.115	10.930	14.742
257.8	XEYC	5151.452	B	2918.9	48.0	257.8	221.4	0.0	0.0	221.4	0.003856	0.171	7.945	11.679
257.8	XEYC	5151.452	B	2918.9	48.0	257.8	221.4	0.0	0.0	221.4	0.003856	0.171	7.945	11.679
257.9	XEYC	5168.849	B	2920.3	48.0	257.9	221.4	0.0	0.0	221.4	0.003852	0.171	7.963	11.671
301.3	NEW	1742.443	B	2822.2	57.4	301.3	221.4	0.0	0.0	221.4	0.004192	0.186	2.922	4.057

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BEARING	CALL	LIM		DIST							MIDPT	TO		
302.8	CJOY	256.266	B	456.5	53.9	302.8	221.4	24.1	24.1	191.9	0.141186	5.419	14.472	16.396
302.8	CJOY	256.266	B	456.5	53.9	302.8	221.4	24.1	24.1	191.9	0.141186	5.419	14.472	16.396