

ENGINEERING STATEMENT

IN SUPPORT OF

APPLICATION FOR MINOR MODIFICATION OF A LICENSED FACILITY

W19DN-D

MACON, GA

Background

Major Market Broadcasting of North Dakota, Inc. (MMBND), is seeking, in its instant application, to displace W19DN-D to a new channel and move it to a new transmit location. W19DN-D is predicted, by TVStudy, to receive incoming interference from the full-service station WANF (Ch. 19 at Atlanta, GA). Due to the incoming interference, the displacement to a new channel is considered a minor change.

Proposed Parameters

MMBND is proposing the following parameters for the W19DN-D digital operation on Ch. 24:

Coordinates:	33° 01' 53.1" N (NAD83) 83° 52' 12.0" W
ASR#	1018929
ERP:	7.4 kW
RCAMSL:	305.7m
RCAGL:	100.0m
Antenna:	Kathrein 2x1 750 10210
Mask:	Full-Service

Interference

An interference study was conducted of the proposed facility parameters using the FCC TVStudy software (Version 2.2.5) with the default parameters. The results of the study (copy attached hereto) show that potential interference from the proposed facility is not predicted to exceed 0.49% to any full-service DTV or Class A stations or 1.99% to any low power stations as required by the Commission's Rules.

Environmental/RFR

This report addresses only the conditions specified in 47CFR1.1307 that deal with Radio Frequency Radiation. Any other non-RFR conditions that might require the preparation of an EA are beyond the scope of this report; since the structure is existing and registered, such conditions should not be an issue requiring further consideration.

The location of the proposed facility is a multi-user site and it is assumed to currently be "in compliance" with FCC guidelines for human exposure to RFR (as defined in OET-65). The worst-case ground level RFR contributed to the site by this proposal is calculated to be 0.001609 mW/cm² at 2m AGL, assuming a worst-case 100% relative field at downward elevation angles. The calculated RFR is less than 5% of the maximum permissible exposure (MPE) for public areas (0.355333 mW/cm²) at Ch. 24. Per Section 1.1307(b) of the FCC Rules, the proposed operation would be categorically excluded from taking corrective action in areas with levels above the MPE limit where the contribution to the RFR from the proposed facility is less than 5%.

MMBND agrees to comply with the Commission's requirements regarding power adjustments or cessation of operation as may be necessary to ensure a compliant environment for worker access.

Certification

I hereby certify that the foregoing report or statement was prepared by me but may include work performed by others under my supervision or direction. The statements of fact contained therein are believed to be true and correct based on personal knowledge, information and belief unless otherwise stated; with respect to facts not known of my own personal knowledge, I believe them to be true and correct based on their origin from sources known to me to be generally reliable and accurate. I have prepared this document with due care and in accordance with applicable standards of professional practice.



Benjamin Pidek, P.E.
April 12, 2023

Attached:
TVStudy Interference Check Report for Proposed W19DN-D Ch. 24 Facility
Antenna Azimuth and Elevation Pattern Plots and Tabulations

TVStudy TV Interference Check Report for Proposed W19DN-D Facility on Ch. 24

Study created: 2023.04.12 19:25:47

Study build station data: LMS TV 2023-04-05

Proposal: W19DN-D D24 LD CP MACON, GA
File number: W19DN-C24-1018929_040823
Facility ID: 185672
Station data: User record
Record ID: 326
Country: U.S.

Build options:
Protect pre-transition records not on baseline channel

Search options:
Non-U.S. records included

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	W23FN-D	D23	LD	LIC	ALBANY, GA	BLANK0000194770	172.5 km
No	W23FN-D	D23	LD	APP	ALBANY, GA	BLANK0000202092	172.5
No	WZVC-LD	D23	LD	LIC	ATHENS, GA	BLANK0000178758	115.9
No	WZVC-LD	D23	LD	CP	ATHENS, GA	BLANK0000185000	114.1
No	WAAU-LD	D23	LD	LIC	AUGUSTA, GA	BLDTL20120522AFJ	179.8
No	W23EV-D	D23	LD	LIC	CARROLLTON, GA	BLANK0000125385	122.0
No	WAUA-LD	D23	LD	LIC	COLUMBUS, GA	BLANK0000189629	126.2
No	WKTB-CD	D23	DC	LIC	NORCROSS, GA	BLANK0000081811	103.1
Yes	WPGA-TV	D23	DT	LIC	PERRY, GA	BLANK0000116580	42.7
No	WTOC-TV	D23	DT	LIC	SAVANNAH, GA	BLANK0000210697	259.9
No	WFLI-TV	D23	DT	LIC	CLEVELAND, TN	BLANK0000093785	271.6
No	WTBM-CD	D24	DC	LIC	BIRMINGHAM, AL	BLANK0000206527	277.0
No	WHIQ	D24	DT	LIC	HUNTSVILLE, AL	BLANK0000004828	310.0
No	WWE0-LD	D24	LD	LIC	DEFUNIAK SPRINGS, FL	BLDTA20120712ABF	330.9
No	W24EY-D	D24	LD	LIC	PANAMA CITY, FL	BLANK0000177340	354.5
No	W24EY-D	D24	LD	APP	PANAMA CITY, FL	BLANK0000207145	352.2
No	WSRE	D24	DT	LIC	PENSACOLA, FL	BLANK0000090765	443.7
No	WTLF	D24	DT	LIC	TALLAHASSEE, FL	BLANK0000210947	261.5
No	W24FC-D	D24	LD	LIC	AUGUSTA, GA	BLANK0000194531	152.2
No	W24FC-D	D24	LD	CP	AUGUSTA, GA	BLANK0000203284	136.9
No	WPXC-TV	D24	DT	LIC	BRUNSWICK, GA	BLCDT20110426AAQ	316.8
Yes	WXTX	D24	DT	LIC	COLUMBUS, GA	BLANK0000064021	113.6
No	WKSX-LD	D24	LD	LIC	ROME, GA	BLANK0000205681	165.5
No	WVND-LD	D24	LD	LIC	SUWANEE, GA	BLANK0000179560	119.8
Yes	WGTA	D24	DT	LIC	TOCCOA, GA	BLANK0000001315	181.4
No	W24EP-D	D24	DC	LIC	FULTON, MS	BLANK0000063965	422.3
No	WMDN	D24	DT	CP	MERIDIAN, MS	BLANK0000035927	457.8
No	WMDN	D24	DT	LIC	MERIDIAN, MS	BLCDT20090304ADW	457.8
No	WCNC-TV	D24	DT	LIC	CHARLOTTE, NC	BLANK0000147158	357.5
No	WITV	D24	DT	LIC	CHARLESTON, SC	BLANK0000118279	389.0
No	W24EX-D	D24	LD	CP	FLORENCE, SC	BLANK0000208602	407.4
No	WDDA-LD	D24	LD	LIC	CHATTANOOGA, TN	BLANK0000185266	269.3
No	WNPX-LD	D24	LD	LIC	NASHVILLE, TN	BLANK0000179242	413.6
No	WETP-TV	D24	DT	LIC	SNEEDVILLE, TN	BLANK0000120200	377.6
No	W25ED-D	D25	LD	LIC	ALBANY, GA	BLANK0000194922	172.5
No	W25ED-D	D25	LD	APP	ALBANY, GA	BLANK0000202058	172.5
Yes	WATL	D25	DT	LIC	ATLANTA, GA	BLCDT20020716AAH	96.6
No	W25EM-D	D25	LD	LIC	COLUMBUS, GA	BLANK0000196006	116.9
No	W25FW-D	D25	LD	LIC	COLUMBUS, GA	BLANK0000194410	114.3
No	W25EM-D	D25	LD	APP	COLUMBUS, GA	BLANK0000202061	116.9
No	DW25EG-D	D25	LD	APP	COLUMBUS, GA	BLDTL20121226AAV	115.9

No W25FP-D D25 LD CP YOUNG HARRIS, GA BLANK0000162659 214.1

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D24
Mask: Full Service
Latitude: 33 1 53.10 N (NAD83)
Longitude: 83 52 12.00 W
Height AMSL: 305.7 m
HAAT: 0.0 m
Peak ERP: 7.40 kW
Antenna: KAT 750 10210 340.0 deg
Elev Pattn: Generic
Elec Tilt: 0.50

49.8 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	5.49 kW	155.7 m	43.4 km
45.0	0.296	165.1	29.0
90.0	0.059	174.0	21.5
135.0	0.011	162.8	13.6
180.0	0.022	151.3	15.1
225.0	0.043	130.2	16.7
270.0	0.143	110.1	21.3
315.0	4.50	138.3	41.3

Database HAAT does not agree with computed HAAT

Database HAAT: 0 m Computed HAAT: 148 m

Distance to Canadian border: 966.6 km

Distance to Mexican border: 1484.7 km

Conditions at FCC monitoring station: Powder Springs GA

Bearing: 319.6 degrees Distance: 121.7 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:

Bearing: 298.6 degrees Distance: 2055.9 km

Study cell size: 1.00 km

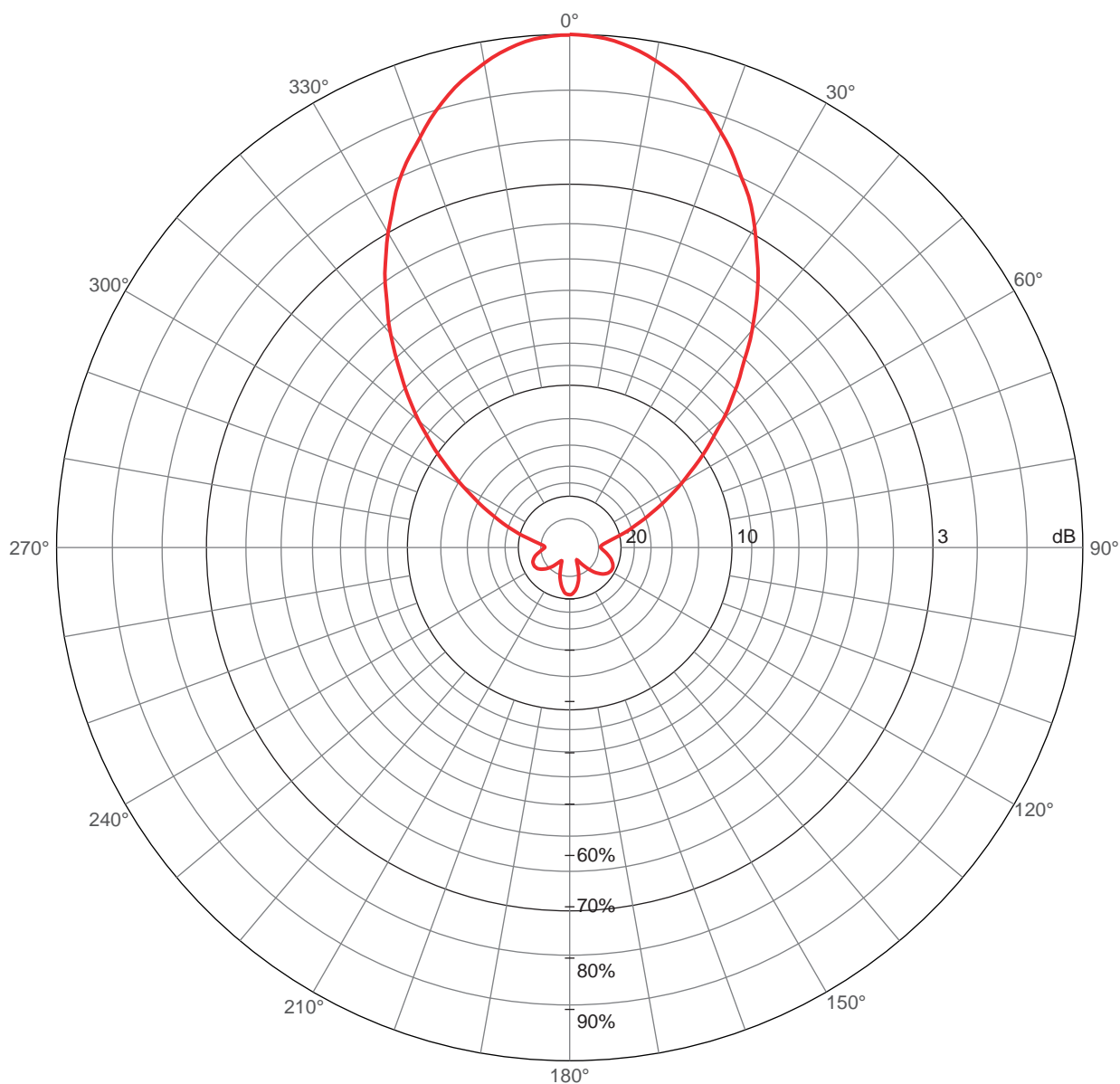
Profile point spacing: 1.00 km

Maximum new IX to full-service and Class A: 0.50%

Maximum new IX to LPTV: 2.00%

No IX check failures found.

Azimuthal Pattern (polar-linear)



Antenna, Order No. 75010210
Panels per Bay: 1

Frequency: 533 MHz
Azimuthal Directivity: 7.43 dB
Directivity: 14.15 dBd

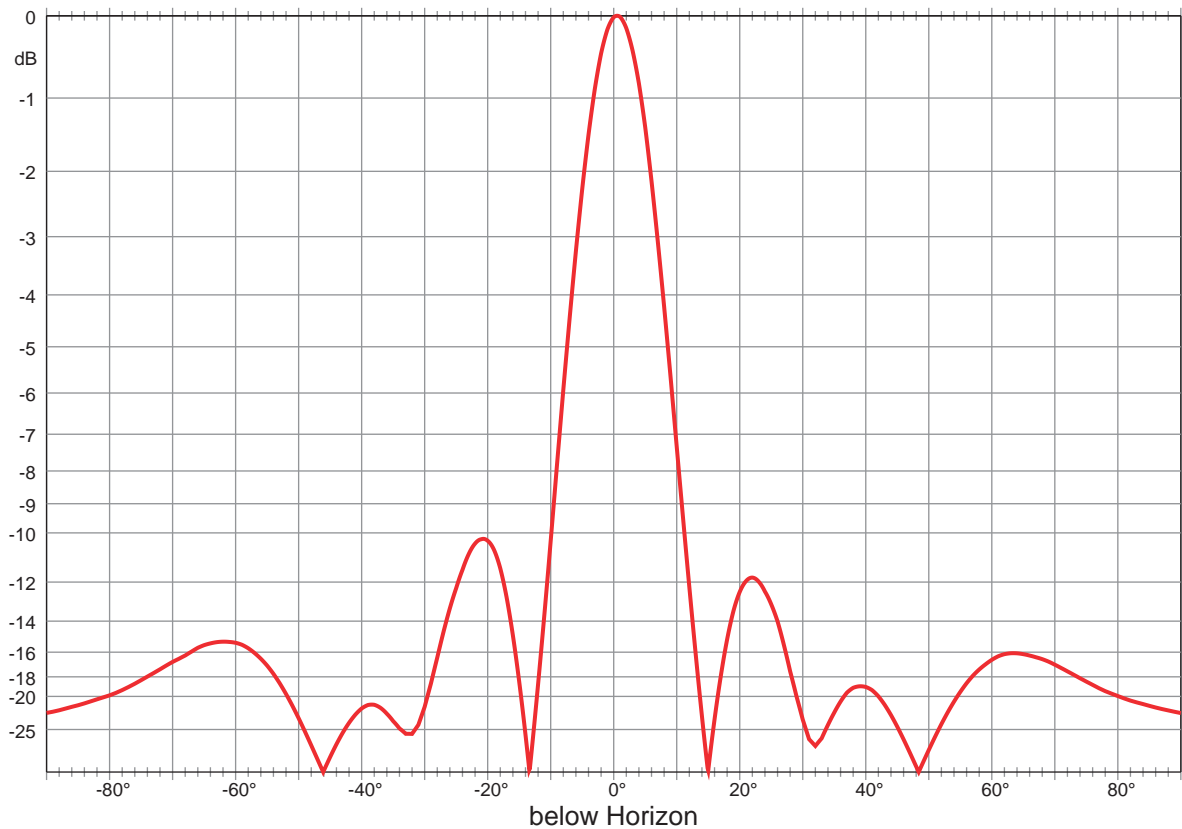
No.	Azimuth [°]	Radius [mm]	Offset [mm]	Power	Phase [°]
1	0	270	0	1	0

simulation with typical exactness of +/- 8% of max signal

TABULATED DATA FOR AZIMUTH PATTERN

ANGLE	FIELD	ANGLE	FIELD	ANGLE	FIELD	ANGLE	FIELD	ANGLE	FIELD	ANGLE	FIELD	ANGLE	FIELD
0	1.000	52	0.359	104	0.081	156	0.037	208	0.034	260	0.063	312	0.414
1	0.999	53	0.346	105	0.083	157	0.040	209	0.032	261	0.061	313	0.430
2	0.998	54	0.332	106	0.084	158	0.043	210	0.031	262	0.059	314	0.445
3	0.997	55	0.319	107	0.085	159	0.046	211	0.030	263	0.057	315	0.460
4	0.994	56	0.305	108	0.087	160	0.050	212	0.030	264	0.056	316	0.475
5	0.991	57	0.291	109	0.088	161	0.053	213	0.031	265	0.054	317	0.492
6	0.987	58	0.277	110	0.089	162	0.057	214	0.032	266	0.053	318	0.509
7	0.982	59	0.265	111	0.090	163	0.060	215	0.033	267	0.052	319	0.526
8	0.977	60	0.253	112	0.091	164	0.063	216	0.035	268	0.051	320	0.543
9	0.971	61	0.242	113	0.091	165	0.067	217	0.037	269	0.049	321	0.560
10	0.964	62	0.229	114	0.092	166	0.069	218	0.039	270	0.049	322	0.576
11	0.956	63	0.217	115	0.093	167	0.071	219	0.041	271	0.049	323	0.591
12	0.949	64	0.206	116	0.093	168	0.074	220	0.044	272	0.049	324	0.608
13	0.941	65	0.196	117	0.093	169	0.077	221	0.046	273	0.050	325	0.627
14	0.931	66	0.185	118	0.093	170	0.079	222	0.049	274	0.051	326	0.644
15	0.920	67	0.174	119	0.093	171	0.081	223	0.051	275	0.053	327	0.660
16	0.909	68	0.165	120	0.092	172	0.083	224	0.053	276	0.056	328	0.675
17	0.898	69	0.156	121	0.092	173	0.085	225	0.055	277	0.059	329	0.692
18	0.886	70	0.147	122	0.091	174	0.086	226	0.057	278	0.062	330	0.708
19	0.874	71	0.138	123	0.090	175	0.088	227	0.059	279	0.066	331	0.723
20	0.861	72	0.131	124	0.089	176	0.089	228	0.062	280	0.070	332	0.738
21	0.849	73	0.124	125	0.088	177	0.091	229	0.064	281	0.075	333	0.755
22	0.837	74	0.117	126	0.087	178	0.092	230	0.065	282	0.080	334	0.772
23	0.822	75	0.110	127	0.085	179	0.092	231	0.067	283	0.086	335	0.787
24	0.808	76	0.103	128	0.084	180	0.092	232	0.069	284	0.094	336	0.801
25	0.794	77	0.096	129	0.082	181	0.092	233	0.070	285	0.101	337	0.815
26	0.781	78	0.090	130	0.080	182	0.091	234	0.071	286	0.107	338	0.827
27	0.768	79	0.085	131	0.077	183	0.091	235	0.073	287	0.114	339	0.839
28	0.753	80	0.080	132	0.075	184	0.091	236	0.074	288	0.122	340	0.851
29	0.737	81	0.076	133	0.073	185	0.090	237	0.075	289	0.131	341	0.865
30	0.721	82	0.073	134	0.070	186	0.089	238	0.076	290	0.139	342	0.878
31	0.704	83	0.069	135	0.068	187	0.087	239	0.076	291	0.147	343	0.890
32	0.687	84	0.067	136	0.065	188	0.085	240	0.077	292	0.155	344	0.902
33	0.671	85	0.064	137	0.061	189	0.083	241	0.077	293	0.165	345	0.913
34	0.656	86	0.063	138	0.058	190	0.081	242	0.078	294	0.175	346	0.924
35	0.640	87	0.061	139	0.055	191	0.079	243	0.078	295	0.185	347	0.934
36	0.623	88	0.060	140	0.052	192	0.077	244	0.078	296	0.196	348	0.942
37	0.606	89	0.060	141	0.048	193	0.074	245	0.078	297	0.206	349	0.950
38	0.588	90	0.060	142	0.045	194	0.071	246	0.078	298	0.217	350	0.958
39	0.570	91	0.061	143	0.042	195	0.069	247	0.077	299	0.229	351	0.966
40	0.553	92	0.062	144	0.040	196	0.066	248	0.077	300	0.242	352	0.973
41	0.536	93	0.064	145	0.036	197	0.064	249	0.077	301	0.255	353	0.979
42	0.518	94	0.065	146	0.033	198	0.061	250	0.076	302	0.268	354	0.985
43	0.499	95	0.066	147	0.031	199	0.058	251	0.075	303	0.281	355	0.990
44	0.483	96	0.068	148	0.029	200	0.055	252	0.074	304	0.294	356	0.993
45	0.468	97	0.070	149	0.028	201	0.052	253	0.073	305	0.309	357	0.996
46	0.453	98	0.071	150	0.028	202	0.049	254	0.072	306	0.324	358	0.997
47	0.437	99	0.073	151	0.028	203	0.046	255	0.071	307	0.338	359	0.999
48	0.422	100	0.074	152	0.029	204	0.043	256	0.070	308	0.352		
49	0.408	101	0.076	153	0.030	205	0.040	257	0.068	309	0.368		
50	0.392	102	0.078	154	0.032	206	0.038	258	0.066	310	0.384		
51	0.375	103	0.080	155	0.034	207	0.036	259	0.065	311	0.399		

Elevation Pattern (cartesian-linear)



Antenna, Order No. 75010210
Number of Bays: 2

Frequency: 533 MHz
Elevation Directivity: 6.72 dBd
Directivity: 14.15 dBd
Downtilt: 0.5°
Compensation: 1.52 %

No.	Vert. Distance [mm]	Power	Phase [°]
2	1150	1	10
1	0	1	0

Subject to alternation

Kathrein/Scala 2x1 75010210 - Ch. 24

TABULATED DATA FOR ELEVATION PATTERN

ANGLE	FIELD	ANGLE	FIELD	ANGLE	FIELD
-10	0.306	24	0.239	58	0.136
-9	0.406	25	0.222	59	0.142
-8	0.505	26	0.199	60	0.148
-7	0.600	27	0.168	61	0.153
-6	0.689	28	0.133	62	0.156
-5	0.771	29	0.100	63	0.157
-4	0.843	30	0.069	64	0.157
-3	0.903	31	0.043	65	0.156
-2	0.950	32	0.034	66	0.154
-1	0.982	33	0.045	67	0.152
0	0.998	34	0.062	68	0.149
1	0.999	35	0.079	69	0.146
2	0.984	36	0.093	70	0.142
3	0.954	37	0.105	71	0.138
4	0.910	38	0.111	72	0.133
5	0.853	39	0.113	73	0.129
6	0.781	40	0.112	74	0.124
7	0.701	41	0.108	75	0.120
8	0.615	42	0.100	76	0.115
9	0.524	43	0.089	77	0.111
10	0.430	44	0.075	78	0.107
11	0.336	45	0.060	79	0.104
12	0.245	46	0.043	80	0.100
13	0.157	47	0.025	81	0.097
14	0.074	48	0.007	82	0.094
15	0.002	49	0.011	83	0.092
16	0.069	50	0.029	84	0.090
17	0.127	51	0.047	85	0.088
18	0.175	52	0.063	86	0.085
19	0.213	53	0.079	87	0.083
20	0.238	54	0.093	88	0.081
21	0.252	55	0.106	89	0.080
22	0.257	56	0.117	90	0.078
23	0.252	57	0.127		