

Azimuth Pattern

Scale: Linear

Unit: Relative Field

Systems With Reliability

CLIENT: *WMDT(DT) / Warmus and Associates*

Date: 10/17/2019

ANTENNA TYPE: SWCDS16EC/29

Interim Side-Mount

FREQUENCY: 563 MHz

PATTERN POL.: Horizontal

CIRCULARITY(+/-dB):

AZ. DIRECTIVITY: 1.70387 / 2.31dB

PATTERN RMS: 0.766

Relative Field Tabulation(Azimuth)

Azimuth Heading	Normalized Field(dB)	Azimuth Heading	Normalized Field(dB)
0	.7330 (-2.7)	180	1.0000 (0)
5	.7935 (-2.01)	185	.9935 (-0.06)
10	.8540 (-1.37)	190	.9870 (-0.11)
15	.8970 (-0.94)	195	.9635 (-0.32)
20	.9400 (-0.54)	200	.9400 (-0.54)
25	.9635 (-0.32)	205	.8970 (-0.94)
30	.9870 (-0.11)	210	.8540 (-1.37)
35	.9935 (-0.06)	215	.7935 (-2.01)
40	1.0000 (0)	220	.7330 (-2.7)
45	.9940 (-0.05)	225	.6605 (-3.6)
50	.9880 (-0.1)	230	.5880 (-4.61)
55	.9755 (-0.22)	235	.5125 (-5.81)
60	.9630 (-0.33)	240	.4370 (-7.19)
65	.9495 (-0.45)	245	.3695 (-8.65)
70	.9360 (-0.57)	250	.3020 (-10.4)
75	.9265 (-0.66)	255	.2600 (-11.7)
80	.9170 (-0.75)	260	.2180 (-13.23)
85	.9110 (-0.81)	265	.2125 (-13.45)
90	.9050 (-0.87)	270	.2070 (-13.68)
95	.9025 (-0.89)	275	.2195 (-13.17)
100	.9000 (-0.92)	280	.2320 (-12.69)
105	.8995 (-0.92)	285	.2385 (-12.45)
110	.8990 (-0.92)	290	.2450 (-12.22)
115	.8995 (-0.92)	295	.2385 (-12.45)
120	.9000 (-0.92)	300	.2320 (-12.69)
125	.9025 (-0.89)	305	.2195 (-13.17)
130	.9050 (-0.87)	310	.2070 (-13.68)
135	.9110 (-0.81)	315	.2125 (-13.45)
140	.9170 (-0.75)	320	.2180 (-13.23)
145	.9265 (-0.66)	325	.2600 (-11.7)
150	.9360 (-0.57)	330	.3020 (-10.4)
155	.9495 (-0.45)	335	.3695 (-8.65)
160	.9630 (-0.33)	340	.4370 (-7.19)
165	.9755 (-0.22)	345	.5125 (-5.81)
170	.9880 (-0.1)	350	.5880 (-4.61)
175	.9940 (-0.05)	355	.6605 (-3.6)

Systems With Reliability

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Date: 10/17/2019

ANTENNA TYPE: SWCDS16EC/29

Interim Side-Mount

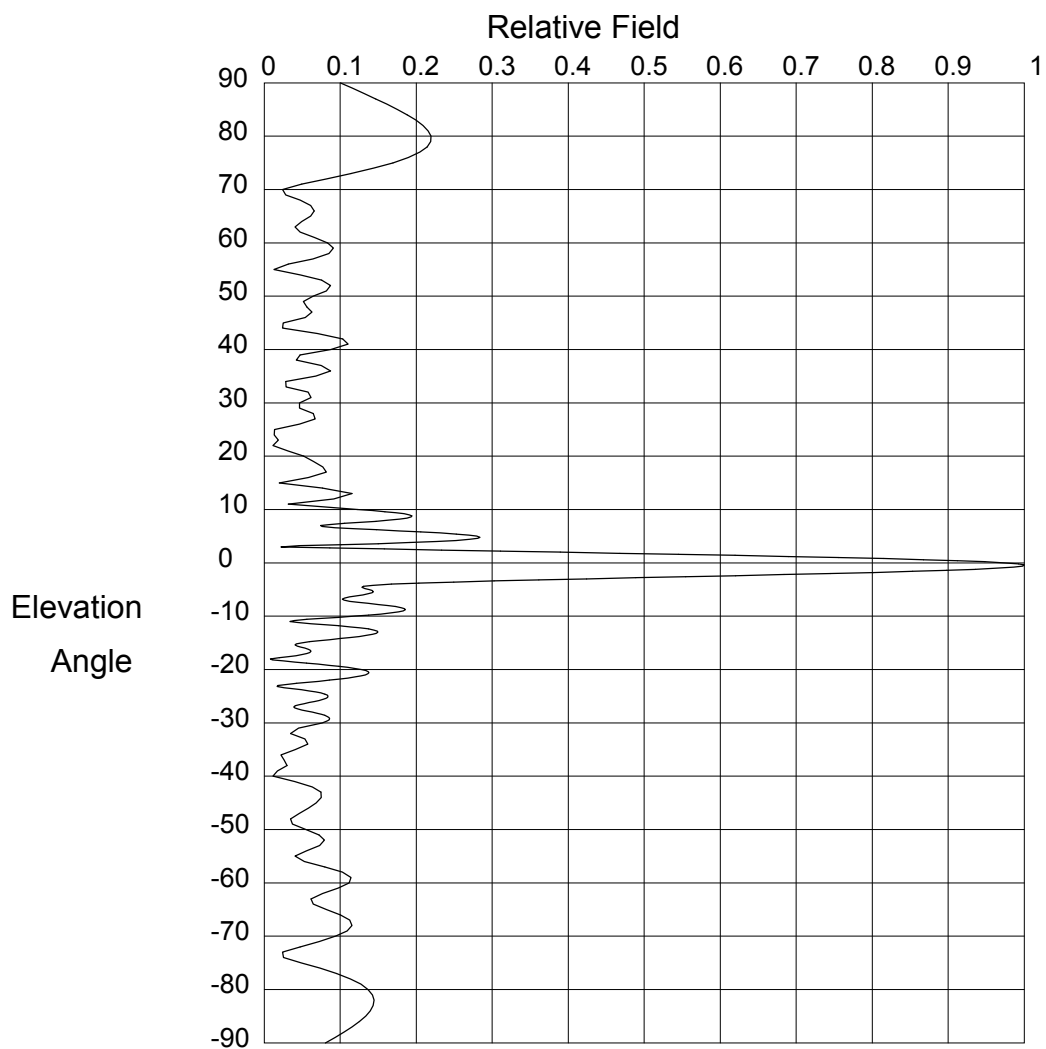
FREQUENCY: 563 MHz

PATTERN POL.: Horizontal

CIRCULARITY(+/-dB):

AZ. DIRECTIVITY: 1.70387 / 2.31dB

PATTERN RMS: 0.766



Elevation Pattern

Scale: Linear

Units: Field, Relative

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CLIENT: *WMDT(DT)*

Date: 1/24/2020

ANTENNA TYPE: SWCDS16EC/29

MEAS0MP

FREQUENCY: 563 MHz

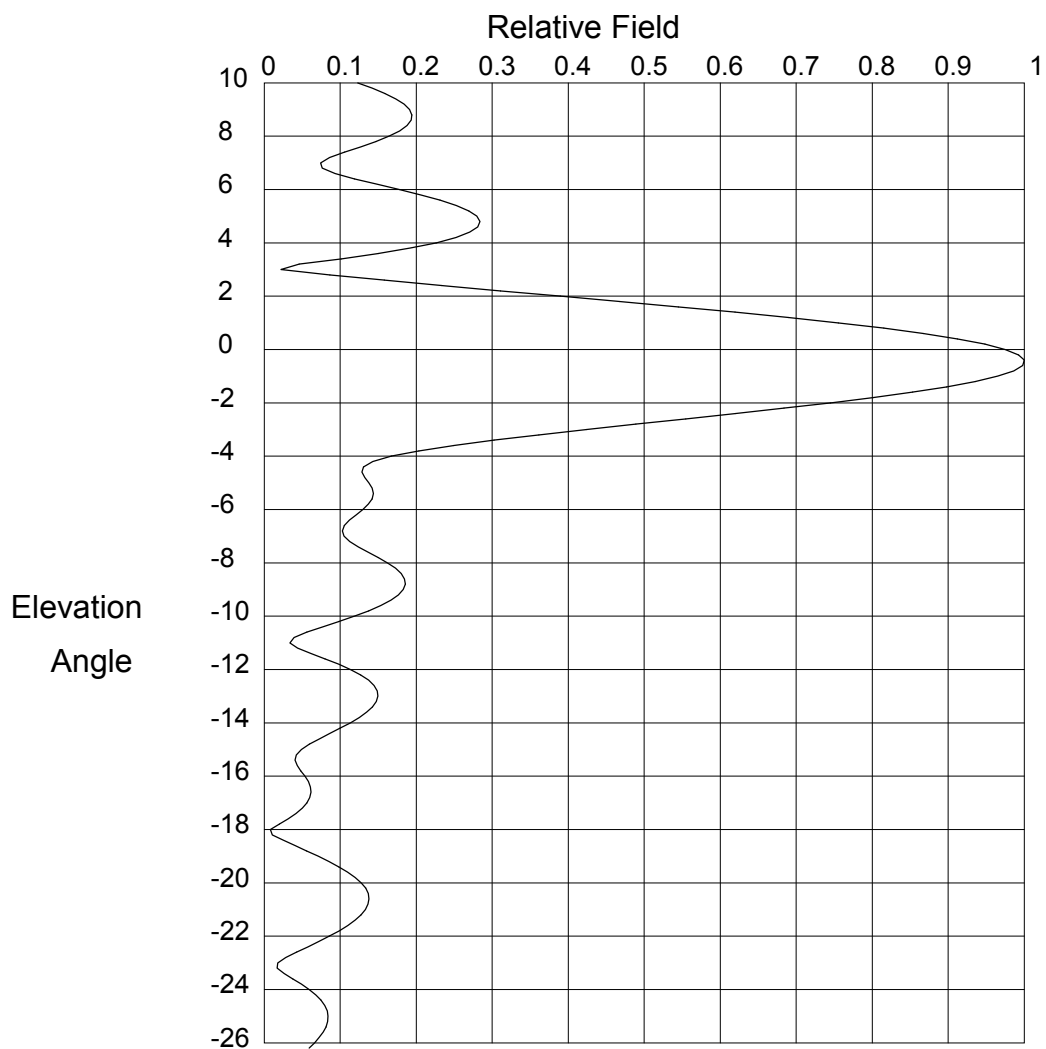
PATTERN POL.: Horizontal

DIRECTIVITY(Peak): 16.415/12.152 dBd

Beam Tilt (Deg.) : -0.75

DIRECTIVITY(Horiz): 15.605/11.933 dBd

Null Fill(s)(%) : 15, 10, 5



Elevation Pattern

Scale: Linear

Units: Field, Relative

Systems With Reliability

CLIENT: *WMDT(DT)*

Date: 1/24/2020

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FREQUENCY: 563 MHz

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Beam Tilt (Deg.) : -0.75

DIRECTIVITY(Horiz): 15.605/11.933 dBd

Null Fill(s)(%) : 15, 10, 5

Relative Field Tabulation

Elev. Angle	Rel. Fld(dB)	Elev. Angle	Rel. Fld(dB)	Elev. Angle	Rel. Fld(dB)
90.0	.10 (-19.969)	52.0	.087 (-21.179)	14.0	.077 (-22.323)
89.0	.116 (-18.707)	51.0	.082 (-21.742)	13.0	.115 (-18.757)
88.0	.132 (-17.619)	50.0	.065 (-23.806)	12.0	.092 (-20.761)
87.0	.147 (-16.672)	49.0	.051 (-25.808)	11.0	.032 (-30.006)
86.0	.161 (-15.845)	48.0	.056 (-25.035)	10.0	.123 (-18.208)
85.0	.175 (-15.126)	47.0	.063 (-23.996)	9.8	.142 (-16.95)
84.0	.188 (-14.512)	46.0	.054 (-25.321)	9.6	.159 (-15.971)
83.0	.199 (-14.002)	45.0	.025 (-32.072)	9.4	.173 (-15.23)
82.0	.209 (-13.602)	44.0	.024 (-32.444)	9.2	.184 (-14.701)
81.0	.216 (-13.322)	43.0	.07 (-23.08)	9.0	.191 (-14.37)
80.0	.219 (-13.176)	42.0	.103 (-19.709)	8.8	.194 (-14.228)
79.0	.219 (-13.184)	41.0	.11 (-19.146)	8.6	.193 (-14.278)
78.0	.214 (-13.372)	40.0	.088 (-21.147)	8.4	.188 (-14.526)
77.0	.205 (-13.773)	39.0	.047 (-26.477)	8.2	.178 (-14.988)
76.0	.19 (-14.434)	38.0	.042 (-27.457)	8.0	.164 (-15.688)
75.0	.169 (-15.423)	37.0	.075 (-22.498)	7.8	.147 (-16.657)
74.0	.144 (-16.838)	36.0	.087 (-21.204)	7.6	.127 (-17.933)
73.0	.114 (-18.843)	35.0	.068 (-23.355)	7.4	.106 (-19.525)
72.0	.082 (-21.735)	34.0	.028 (-31.037)	7.2	.086 (-21.294)
71.0	.049 (-26.112)	33.0	.029 (-30.808)	7.0	.074 (-22.607)
70.0	.024 (-32.353)	32.0	.058 (-24.791)	6.8	.076 (-22.36)
69.0	.028 (-30.966)	31.0	.061 (-24.223)	6.6	.093 (-20.623)
68.0	.047 (-26.514)	30.0	.047 (-26.627)	6.4	.119 (-18.509)
67.0	.061 (-24.288)	29.0	.047 (-26.626)	6.2	.148 (-16.597)
66.0	.066 (-23.64)	28.0	.064 (-23.811)	6.0	.178 (-15.007)
65.0	.061 (-24.288)	27.0	.067 (-23.461)	5.8	.206 (-13.723)
64.0	.05 (-26.092)	26.0	.046 (-26.673)	5.6	.231 (-12.712)
63.0	.04 (-27.881)	25.0	.014 (-37.316)	5.4	.253 (-11.942)
62.0	.047 (-26.533)	24.0	.013 (-37.617)	5.2	.269 (-11.395)
61.0	.066 (-23.616)	23.0	.019 (-34.654)	5.0	.28 (-11.058)
60.0	.083 (-21.58)	22.0	.011 (-38.948)	4.8	.284 (-10.931)
59.0	.091 (-20.805)	21.0	.031 (-30.066)	4.6	.281 (-11.023)
58.0	.085 (-21.406)	20.0	.052 (-25.678)	4.4	.271 (-11.354)
57.0	.064 (-23.836)	19.0	.065 (-23.764)	4.2	.252 (-11.964)
56.0	.032 (-29.921)	18.0	.077 (-22.241)	4.0	.226 (-12.918)
55.0	.013 (-37.83)	17.0	.082 (-21.755)	3.8	.192 (-14.34)
54.0	.048 (-26.439)	16.0	.058 (-24.723)	3.6	.15 (-16.474)
53.0	.075 (-22.46)	15.0	.02 (-34.1)	3.4	.101 (-19.908)

Systems With Reliability

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CLIENT: *WMDT(DT)*

Date: 1/24/2020

ANTENNA TYPE: SWCDS16EC/29

MEAS0MP

FREQUENCY: 563 MHz

PATTERN POL.: Horizontal

DIRECTIVITY(Peak): 16.415/12.152 dBd

Beam Tilt (Deg.) : -0.75

DIRECTIVITY(Horiz): 15.605/11.933 dBd

Null Fill(s)(%) : 15, 10, 5

Relative Field Tabulation

Elev. Angle	Rel. Fld(dB)	Elev. Angle	Rel. Fld(dB)	Elev. Angle	Rel. Fld(dB)
3.2	.046 (-26.757)	-4.4	.131 (-17.685)	-12.0	.114 (-18.888)
3.0	.022 (-33.214)	-4.6	.129 (-17.814)	-12.2	.127 (-17.93)
2.8	.086 (-21.263)	-4.8	.133 (-17.555)	-12.4	.137 (-17.246)
2.6	.158 (-16.024)	-5.0	.138 (-17.204)	-12.6	.145 (-16.796)
2.4	.233 (-12.642)	-5.2	.142 (-16.942)	-12.8	.149 (-16.552)
2.2	.311 (-10.149)	-5.4	.144 (-16.852)	-13.0	.15 (-16.496)
2.0	.389 (-8.19)	-5.6	.142 (-16.96)	-13.2	.148 (-16.621)
1.8	.468 (-6.595)	-5.8	.137 (-17.265)	-13.4	.143 (-16.922)
1.6	.545 (-5.271)	-6.0	.13 (-17.746)	-13.6	.135 (-17.401)
1.4	.62 (-4.159)	-6.2	.121 (-18.355)	-13.8	.125 (-18.065)
1.2	.69 (-3.222)	-6.4	.112 (-19.001)	-14.0	.113 (-18.924)
1.0	.756 (-2.433)	-6.6	.106 (-19.531)	-14.2	.10 (-19.993)
.8	.815 (-1.775)	-6.8	.103 (-19.758)	-14.4	.086 (-21.286)
.6	.868 (-1.234)	-7.0	.105 (-19.557)	-14.6	.072 (-22.806)
.4	.912 (-0.799)	-7.2	.113 (-18.968)	-14.8	.06 (-24.506)
.2	.948 (-0.463)	-7.4	.124 (-18.154)	-15.0	.049 (-26.208)
.0	.975 (-0.22)	-7.6	.137 (-17.286)	-15.2	.042 (-27.483)
-.2	.992 (-0.067)	-7.8	.15 (-16.48)	-15.4	.041 (-27.825)
-.4	1.00 (0)	-8.0	.162 (-15.795)	-15.6	.043 (-27.256)
-.6	.998 (-0.018)	-8.2	.173 (-15.258)	-15.8	.048 (-26.303)
-.8	.986 (-0.12)	-8.4	.18 (-14.882)	-16.0	.054 (-25.392)
-1.0	.965 (-0.306)	-8.6	.185 (-14.67)	-16.2	.058 (-24.706)
-1.2	.936 (-0.577)	-8.8	.186 (-14.625)	-16.4	.061 (-24.305)
-1.4	.898 (-0.934)	-9.0	.183 (-14.753)	-16.6	.062 (-24.207)
-1.6	.853 (-1.381)	-9.2	.177 (-15.061)	-16.8	.06 (-24.431)
-1.8	.802 (-1.92)	-9.4	.167 (-15.562)	-17.0	.056 (-25.012)
-2.0	.745 (-2.557)	-9.6	.153 (-16.28)	-17.2	.05 (-26.022)
-2.2	.684 (-3.297)	-9.8	.137 (-17.245)	-17.4	.042 (-27.598)
-2.4	.62 (-4.147)	-10.0	.119 (-18.508)	-17.6	.031 (-30.035)
-2.6	.555 (-5.117)	-10.2	.098 (-20.145)	-17.8	.02 (-34.075)
-2.8	.489 (-6.216)	-10.4	.077 (-22.271)	-18.0	.008 (-41.962)
-3.0	.424 (-7.455)	-10.6	.056 (-25.013)	-18.2	.011 (-39.325)
-3.2	.361 (-8.843)	-10.8	.039 (-28.143)	-18.4	.025 (-32.03)
-3.4	.303 (-10.385)	-11.0	.034 (-29.42)	-18.6	.04 (-27.884)
-3.6	.249 (-12.067)	-11.2	.044 (-27.121)	-18.8	.056 (-25.076)
-3.8	.203 (-13.832)	-11.4	.061 (-24.225)	-19.0	.071 (-23.004)
-4.0	.167 (-15.536)	-11.6	.08 (-21.921)	-19.2	.085 (-21.412)
-4.2	.143 (-16.913)	-11.8	.098 (-20.185)	-19.4	.098 (-20.168)

Systems With Reliability

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CLIENT: *WMDT(DT)*

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PATTERN POL.: Horizontal

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Beam Tilt (Deg.) : -0.75

DIRECTIVITY(Horiz): 15.605/11.933 dBd

Null Fill(s)(%) : 15, 10, 5

Relative Field Tabulation

Elev. Angle	Rel. Fld(dB)	Elev. Angle	Rel. Fld(dB)	Elev. Angle	Rel. Fld(dB)
-19.6	.11 (-19.194)	-27.2	.04 (-27.934)	-54.0	.055 (-25.135)
-19.8	.12 (-18.443)	-27.4	.044 (-27.109)	-55.0	.041 (-27.837)
-20.0	.128 (-17.885)	-27.6	.05 (-26.027)	-56.0	.053 (-25.56)
-20.2	.133 (-17.5)	-27.8	.057 (-24.934)	-57.0	.08 (-21.947)
-20.4	.137 (-17.274)	-28.0	.063 (-23.95)	-58.0	.103 (-19.753)
-20.6	.138 (-17.201)	-28.2	.07 (-23.119)	-59.0	.114 (-18.852)
-20.8	.137 (-17.278)	-28.4	.075 (-22.452)	-60.0	.112 (-19.043)
-21.0	.133 (-17.505)	-28.6	.08 (-21.943)	-61.0	.097 (-20.239)
-21.2	.127 (-17.891)	-28.8	.083 (-21.586)	-62.0	.077 (-22.287)
-21.4	.12 (-18.444)	-29.0	.085 (-21.373)	-63.0	.062 (-24.21)
-21.6	.11 (-19.184)	-29.2	.086 (-21.301)	-64.0	.065 (-23.807)
-21.8	.098 (-20.139)	-29.4	.085 (-21.364)	-65.0	.082 (-21.747)
-22.0	.086 (-21.351)	-29.6	.084 (-21.562)	-66.0	.10 (-19.985)
-22.2	.072 (-22.887)	-29.8	.08 (-21.895)	-67.0	.112 (-18.993)
-22.4	.057 (-24.855)	-30.0	.076 (-22.367)	-68.0	.115 (-18.759)
-22.6	.042 (-27.438)	-31.0	.045 (-26.856)	-69.0	.109 (-19.256)
-22.8	.028 (-30.914)	-32.0	.035 (-29.178)	-70.0	.094 (-20.534)
-23.0	.018 (-35.065)	-33.0	.054 (-25.421)	-71.0	.073 (-22.784)
-23.2	.017 (-35.373)	-34.0	.057 (-24.855)	-72.0	.047 (-26.505)
-23.4	.026 (-31.599)	-35.0	.041 (-27.772)	-73.0	.024 (-32.429)
-23.6	.038 (-28.439)	-36.0	.022 (-33.225)	-74.0	.025 (-31.888)
-23.8	.049 (-26.187)	-37.0	.026 (-31.559)	-75.0	.049 (-26.219)
-24.0	.059 (-24.565)	-38.0	.03 (-30.422)	-76.0	.073 (-22.687)
-24.2	.068 (-23.388)	-39.0	.017 (-35.293)	-77.0	.095 (-20.429)
-24.4	.075 (-22.548)	-40.0	.011 (-38.94)	-78.0	.113 (-18.924)
-24.6	.08 (-21.978)	-41.0	.04 (-27.907)	-79.0	.127 (-17.921)
-24.8	.083 (-21.639)	-42.0	.063 (-23.958)	-80.0	.137 (-17.284)
-25.0	.084 (-21.506)	-43.0	.075 (-22.521)	-81.0	.142 (-16.928)
-25.2	.084 (-21.563)	-44.0	.075 (-22.498)	-82.0	.145 (-16.802)
-25.4	.081 (-21.804)	-45.0	.068 (-23.311)	-83.0	.143 (-16.869)
-25.6	.077 (-22.224)	-46.0	.058 (-24.673)	-84.0	.14 (-17.107)
-25.8	.072 (-22.826)	-47.0	.046 (-26.708)	-85.0	.133 (-17.501)
-26.0	.066 (-23.609)	-48.0	.035 (-29.161)	-86.0	.125 (-18.045)
-26.2	.059 (-24.564)	-49.0	.037 (-28.581)	-87.0	.116 (-18.739)
-26.4	.052 (-25.655)	-50.0	.055 (-25.223)	-88.0	.105 (-19.593)
-26.6	.046 (-26.783)	-51.0	.072 (-22.841)	-89.0	.093 (-20.625)
-26.8	.041 (-27.732)	-52.0	.079 (-22.008)	-90.0	.081 (-21.868)
-27.0	.039 (-28.185)	-53.0	.073 (-22.742)	90.0	.00 (-50)

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