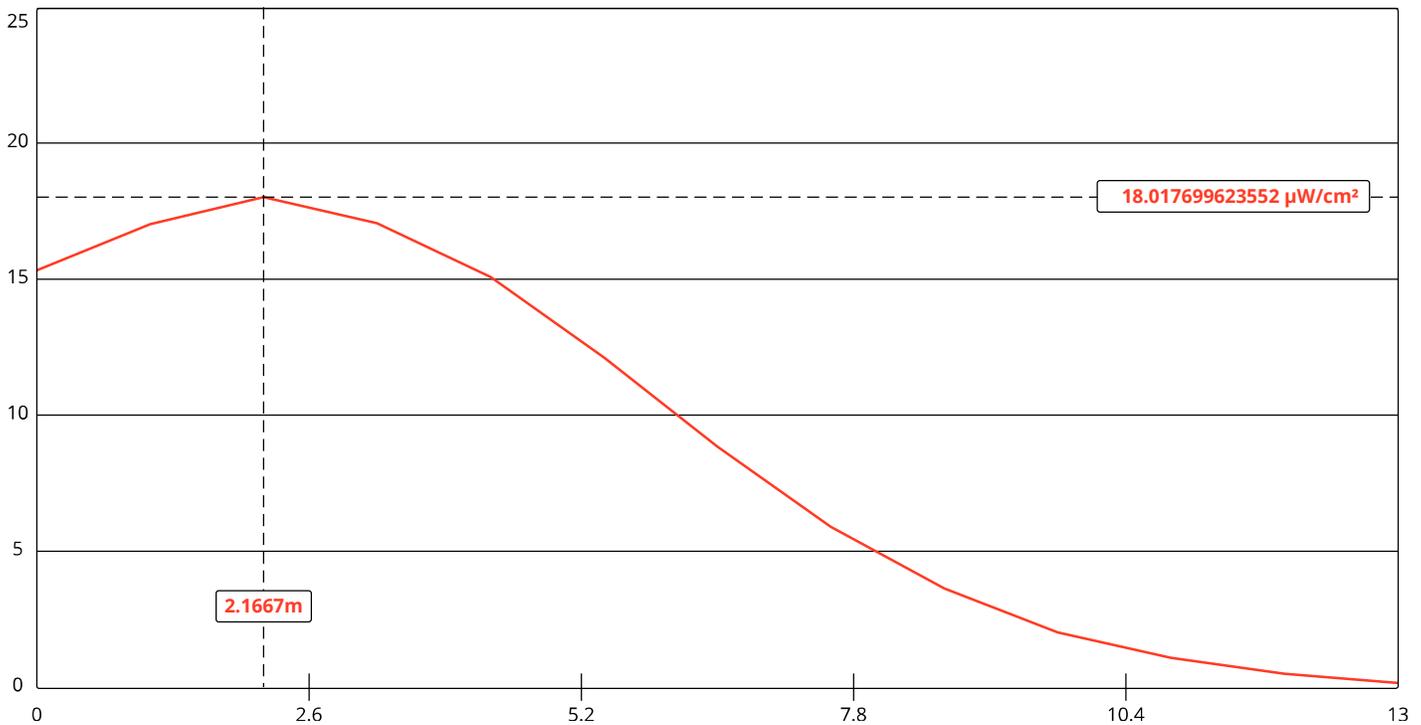


The FM Model calculator determines the potential exposure from radiofrequency (RF) electromagnetic fields produced by FM broadcast station antennas at ground level. The FM Model software was originally developed by the FCC in 1997 as a standalone executable program and this improved version provides more precise predictions and runs via a JavaScript enabled web browser. The FM Model is originally based on measured data [published in 1985 by the EPA](http://nepis.epa.gov/Exe/ZyNET.exe/2000ED2W.TXT?ZyActionD=ZyDocument&Client=EPA&index=1981+Thru+1985&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A\zyfiles\Index%20Data\81thru85\Txt\00000003\2000ED2W.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h|-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=p|f&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL) (<http://nepis.epa.gov/Exe/ZyNET.exe/2000ED2W.TXT?ZyActionD=ZyDocument&Client=EPA&index=1981+Thru+1985&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A\zyfiles\Index%20Data\81thru85\Txt\00000003\2000ED2W.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h|-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=p|f&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL>).

This version uses the actual distance to each antenna element, rather than the distance to the antenna's radiation center, improving separation distance precision. While most predictions using this updated FM Model will be similar to the previous version, this correction could result in significant differences from the previous model at short separation distances from the bottom element of an antenna array where accurate exposure estimation is most critical. Appendix A of the [FM Model Public Notice](https://www.fcc.gov/document/oet-announces-updates-fmmodel-software) (<https://www.fcc.gov/document/oet-announces-updates-fmmodel-software>) contains a brief description of these changes.

Under *Antenna Type* in the user interface below is a collapsible list of associated antenna models cross-referenced with the five EPA element types, initially in Appendix B of the [FM Model Public Notice](https://www.fcc.gov/document/oet-announces-updates-fmmodel-software) (<https://www.fcc.gov/document/oet-announces-updates-fmmodel-software>), including any subsequent changes we received. Element designs that are not in this list because they were not specifically evaluated by EPA, e.g., panel antennas, vertical dipoles, etc., should be treated as Type 1. We continue to invite suggested changes and corrections to this list. Inclusion of antenna models on this list does not constitute an endorsement of those manufacturers or their products by the FCC.



Channel Selection	Channel 224 (92.7 MHz)		
Antenna Type +	EPA Type 1: Ring-and-Stub or "Other"		
Height (m)	<input type="text" value="10.4"/>	Distance (m)	<input type="text" value="13"/>
ERP-H (W)	<input type="text" value="30"/>	ERP-V (W)	<input type="text" value="30"/>
Num of Elements	<input type="text" value="2"/>	Element Spacing (λ)	<input type="text" value="1"/>
Num of Points	<input type="text" value="12"/>	<input type="button" value="Apply"/> 	

* To Print - On your browser, please select Shrink to Fit under the Scale tab from Print Preview

[Hide Tabular Results -](#)

Distance (m)	Power Density ($\mu\text{W}/\text{cm}^2$)
0	15.3
1.083	17.0
2.1667	18.0
3.25	17.1
4.3333	15.1
5.4167	12.1
6.5	8.8
7.5833	5.9
8.6667	3.6
9.75	2.0
10.8333	1.1
11.9167	0.5
13	0.2

[Go to the Top of the Page](#)**Bureau/Office:**[Engineering & Technology \(https://www.fcc.gov/engineering-technology\)](https://www.fcc.gov/engineering-technology)**Updated:**

Friday, June 8, 2018



ATTACHED PRINTOUT FROM FM MODEL INDICATES PEAK DENSITY OCCURRING 2.16 METERS (7' FT) FROM CENTER OF RADIATION, THEN FALLS QUICKLY. CALCULATIONS SHOW RF CONTAINED BELOW 200 UW/CM2 AT 8 METERS BELOW ANTENNA, OR 5 METERS ABOVE THE SURFACE OF THE ROOF.

ROOF IS OFF-LIMITS TO UNAUTHORIZED PERSONNEL. ADDITIONAL SIGNAGE WILL BE POSTED CAUTIONING OF RF HAZARD. APPLICANT CERTIFIES POWER WILL BE REDUCED OR OPERATIONS CEASED AS NECESSARY TO PROTECT PERSONS HAVING ACCESS TO THE SITE.