Environmental Electromagnetic RF/Microwave 5G, Wi-Fi, ELF - LF Exposure in City of Doral 2022

An exploratory field assessment of radiofrequency exposure and low frequency electric and magnetic fields at 45 locations

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Abstract

This exploratory assessment examined electromagnetic exposure at 45 locations in the City of Doral, Miami-Dade County, Florida, USA, in 2022. It identified high ELF/LF readings within the survey, including residential surroundings and public recreation areas associated with high voltage line corridors according to the investigator's field observations. Public-space exposure was a central finding: the dog park recorded 200 V/m and 27.6 mG, and a separate photograph beside the Trails & Tails sign shows 28.09 mG with overhead lines visible. Supplementary RF Explorer testing and access-point verification supported WiFi attribution for the strongest investigated RF signals. [1–3]

The highest recorded RF power density was 0.63 μW/cm² at the substation location. A second high reading of 0.50 μW/cm² belongs to point 8 in the base log, corresponding to J. C. Bermudez, although a derived RF table assigns it an inconsistent point number. Both records carry the equipment label "5_6," described by the investigator as its grouping for the 5 GHz and 6 GHz bands. The maximum electric field was 200 V/m at five locations. The largest magnetic flux densities were 31.1 mG at the substation, 27.6 mG at the dog park and 25.5 mG at Landmark.

Principal result	Value	Scope
RF maximum	0.63 μW/cm²	Substation location
Electric field maximum	200 V/m	Five sampled locations
Magnetic field maximum	31.1 mG	Substation location
Historically classified electric hotspots	10 of 45 / 22.2%	9 extreme and 1 very high
Historically classified magnetic hotspots	7 of 45 / 15.6%	3 extreme and 4 very high

These results prioritize confirmatory ELF/LF measurements in residential settings, parks and walking areas under power lines. The investigator reports that no ELF exposure notices were observed in those public areas during the 2022 assessment; a citywide notification audit was not performed. BioInitiative references inform screening concerns, while the measurements do not establish harmful health effects or regulatory exceedances. Historical severity labels remain project screening classifications. [3–6]

Keywords: Doral; environmental RF; WiFi; 4G; 5G; electric field; magnetic flux density; exploratory assessment; BioInitiative

Executive results and statistical summary

Exposure varied substantially among locations and among readings at the same location. The tables distinguish individual logged readings from the maximum observed at each of the 45 locations. All values refer to the 2022 campaign; this is not a measurement of present-day conditions.

Recalculated statistics for logged readings

Statistic	RF µW/cm²	Electric V/m	Magnetic mG
Minimum	0.00025	0	0
First quartile	0.0025	1.4	0.1
Median	0.008	5.1	0.4
Arithmetic mean	0.03436	30.78	3.38
95th percentile	0.16	199	25.5
Maximum	0.63	200	31.1
Readings retained	267	209	141

Statistics for the 45 location maxima

Statistic	RF µW/cm²	Electric V/m	Magnetic mG
Median location maximum	0.02	19	0.7
Mean location maximum	0.06573	54.41	3.42
95th percentile	0.192	200	22.28

Ten highest location maxima	RF µW/cm²	Electric V/m	Magnetic mG
Arithmetic mean	0.2205	168.9	12.73

In plain language, occasional high readings raised the averages above the medians. The RF median reading was 0.008 µW/cm², while the mean was 0.03436 µW/cm² and the maximum was 0.63 µW/cm². The magnetic median was 0.4 mG, compared with a mean of 3.38 mG. A single “average Doral” value obscures this variation.

Method: BBDD base records; eight electric values restored from matching numeric records in Elec; exact duplicate records removed under the rule on page 4. Quantiles use linear interpolation. Logged RF maxima are meter outputs for individual records, not a summed broadband or time-averaged personal dose. [1]

Study objectives and field methods

Objectives and study design

The field assessment examined whether the strongest investigated RF exposures were associated with WiFi, 4G or 5G, and identified locations with elevated low frequency electric and magnetic fields. It was an exploratory spatial survey of selected locations, not a randomized population study or continuous citywide monitoring program. The inventory includes parks, schools, commercial locations, a hospital, a substation and other public areas. [1,2]

Measurements and instrumentation

The presentation describes exploratory devices including Envionics and a triaxial magnetic field meter. The base sheet contains the header identifiers “FA845” and “sn0683.” These entries do not establish a complete calibration history, measurement uncertainty or instrument configuration. RF is recorded in μW/m², electric field strength in V/m and magnetic flux density in μT. RF Explorer tests supplemented the survey according to the investigator. [1–3]

Each base record identifies a point number, measurement type, time and value. RF records also contain a frequency label and a sequence of band readings. The surviving records give clock times but do not provide a complete dated schedule, coordinates, antenna height, detector settings, integration period or standardized dwell time. These omissions constrain replication and interpretation.

WiFi source identification

The investigator reports conducting additional RF Explorer tests and confirming access points at several locations. Those checks informed the interpretation of 2.4 GHz activity and of the strongest “5_6” signals as WiFi. The equipment label denotes a frequency grouping, not cellular fifth-generation service. The grouped record does not identify which individual channel, or which portion of that grouping, produced the reading. [3]

Source attribution in this report combines the recorded measurements with the investigator’s field account. The supporting RF Explorer trace files and access-point inventory are not part of the measurement archive analyzed here. Consequently, a numerical WiFi share and an independently reproducible ranking of technology-specific citywide averages cannot be calculated.

Quantities and aggregation

One μW/cm² equals 10,000 μW/m². One μT equals 10 mG. Electric fields and magnetic flux density remain separate quantities, particularly near electrical infrastructure. Their numbers cannot be compared directly with RF power density or combined into an overall exposure score.

A location maximum is the highest available value at that point. A logged-reading mean gives more weight to points with more records. Neither quantity represents a resident’s long-term exposure.

Data reconciliation and analytical rules

The workbook contains raw logs, sorted extracts, selected rankings and summary cells. The analysis uses BBDD point IDs as the primary location key and the 45-point inventory in the presentation for names. The original files remain unchanged. The following decisions make the recalculation traceable. [1,2]

Issue	Treatment and implication
Repeated records	BBDD contains 317 RF, 209 electric and 142 magnetic records. Remove exact matches across point, type, time, restored value, unit, frequency and spectrum. Retain 267 RF, 209 electric and 141 magnetic records.
Text replacing electric values	Eight BBDD values read “Extreme.” Restore each to 200 V/m from the Elec numeric block by point and clock time. These are recovered source values, not estimates.
Additional zero electric record	BBDD includes point 24 at 13:08:40 with 0 V/m. The Elec averaging range omits this record. Retain it in the base-log analysis.
J C Bermudez RF assignment	BBDD assigns 5,000 µW/m² at 16:42:30 to point 8. RF shows the correct location name but point 7. Use base point 8 and flag the inconsistency.
Incomplete published rankings	Reconstruct maxima for all 45 IDs. The original RF ranking omits point 8 and understates or misassigns some entries. The magnetic top ten omits Aloft and Element at 3.9 mG.
Historical averages	The original RF 0.027229 µW/cm² is calculated from averages of frequency columns, not from the logged maximum column. The magnetic 4.07 mG averages Mag E15:E132 and omits subsequent zero readings.

Duplicate removal is an analytical convention because the workbook lacks full dates and session identifiers. Two identical rows could theoretically represent separate acquisitions. With all RF rows retained, the mean logged maximum is 0.03727 µW/cm²; after deduplication it is 0.03436 µW/cm². The magnetic means are 3.3796 and 3.3830 mG respectively. Location maxima are unaffected by removing identical records.

The original electric mean of 30.92596 V/m uses 208 readings. Including the additional BBDD zero gives 30.77799 V/m across 209 readings. The reconstructed electric top-ten mean is 168.9 V/m, matching the presentation; the workbook’s selected ten-row list gives 164 V/m because it omits J. C. Bermudez and includes another location.

The historical RF mean of selected top-ten values is 0.1731 µW/cm²; the reconstructed ten highest location maxima average 0.2205 µW/cm². The magnetic presentation value of 11.39 mG differs from both its listed ten-location mean of 12.59 mG and the reconstructed mean of 12.73 mG. These values describe different or unreconciled selections.

Radiofrequency results and WiFi attribution

The substation location recorded the highest RF value, 0.63 μW/cm², followed by 0.50 μW/cm² at point 8 and 0.20 μW/cm² at the intersection of 97th and 25th. Both of the two highest records use the "5_6" band label. A measurement location named "Substation" does not by itself identify the source of its RF signal. [1]

Point	Location	Maximum μW/cm²	Frequency label at maximum
7	Substation	**0.63**	5_6
8	J C Bermudez	**0.5**	5_6
32	Intersection 97th and 25th	**0.2**	2.4, 2.5
29	CVS 87th	**0.16**	2.0, 2.2, 2.3, 2.4
44	Esquina del Lechon	**0.16**	2.2
35	American Welding Society	**0.125**	2.0
36	National Trump Doral	**0.125**	2.3
38	Baptist Hospital	**0.125**	2.3
2	Aloft and Element	**0.1**	3_4
4	City Bank	**0.08**	2.5

Table 1. Reconstructed RF ranking from BBDD. Point 5 also records 0.08 μW/cm² and ties point 4 at the tenth-position value. Ties are ordered by point ID; a top-ten list should not imply that the tied site has lower exposure.

Interpretation of the WiFi finding

The investigator's RF Explorer checks and access-point observations support WiFi attribution for the strongest signals investigated during the campaign. This supports the study's central field conclusion: WiFi, including public access points, was associated with the highest RF exposures identified by the investigator at surveyed locations. [3]

The claim that 2.4 GHz was predominant across the entire city requires a defined metric. In the deduplicated workbook, many records identify lower-frequency bands as the band of the logged maximum: 0.8 appears in 54 records and 0.9 in 44, compared with nine records labeled 2.4. These frequencies alone do not establish a transmission technology. The frequency distribution therefore does not demonstrate a citywide 2.4 GHz majority.

The archive supports a distinction between high WiFi-attributed episodes and the broader mixture of ambient RF signals. It does not supply calibrated, technology-separated integrated powers for all sites. No percentage contribution of WiFi, 4G or 5G is assigned, and no inference is made about cellular bands outside the instrument's documented coverage.

Electric field results

Five locations reached the highest recorded electric field of 200 V/m: the dog park, substation, Publix at 74th Street, Landmark and Fire memorial. Don Pan reached 199 V/m. Nine locations had maxima of at least 100 V/m, representing 20.0% of the 45 sampled locations. This numerical count is separate from a health-based classification. [1]

Point	Location	Maximum V/m	Historical slide category
6	Dog park	**200**	**Extreme**
7	Substation	**200**	**Extreme**
14	Publix at 74th Street	**200**	**Extreme**
18	Landmark	**200**	**Extreme**
26	Fire memorial	**200**	**Extreme**
3	Don Pan	**199**	**Extreme**
8	J C Bermudez	**144**	**Extreme**
41	Las Vistas	**141**	**Extreme**
38	Baptist Hospital	**107**	**Extreme**
19	Divine Savior and Arepazo	**98**	**Very high**

Table 2. Electric field maxima. Historical categories reproduce the presentation's selected ranking; they are not independently validated clinical thresholds. The next-highest location was Doral High School at 95 V/m.

Spatial concentration and interpretation

The electric median across readings was 5.1 V/m and the mean was 30.78 V/m. Across the 45 location maxima, the median was 19 V/m and the mean was 54.41 V/m. This difference shows why the choice of summary statistic matters: maxima emphasize brief high values, while pooled readings include lower values collected during the visit.

The original presentation classifies nine locations as "extreme" and one as "very high," totaling 10 of 45 sampled locations, or 22.2%. The dog park, public recreation surroundings and the residential setting identified by the investigator at Landmark warrant particular attention near high voltage lines. The supplied RF biological-response charts do not define electric-field thresholds in V/m, so these categories remain historical screening flags. [2–5]

Repeated values of exactly 200 V/m warrant checking instrument range, resolution and overload behavior. The source does not establish whether 200 V/m reflects an upper display limit. These readings are reported as recorded, without assuming either clipping or a true physical ceiling.

The investigator identifies high voltage lines as the principal ELF/LF source of concern in residential surroundings and public corridors. The photographs show overhead infrastructure and public access, supporting investigation of electric and magnetic near fields. Exact asset attribution and the extent of exposure require distance profiles, frequency measurements and electrical loading information. [2,3]

Magnetic field results

The largest magnetic flux density was 31.1 mG, equivalent to 3.11 μT, at the substation. The dog park and Landmark followed at 27.6 and 25.5 mG. The remaining location maxima were below 10 mG. Seven sites had maxima of at least 5 mG, or 15.6% of sampled locations. [1]

Point	Location	Maximum mG	Maximum μT
7	Substation	31.1	3.11
6	Dog park	27.6	2.76
18	Landmark	25.5	2.55
26	Fire memorial	9.4	0.94
31	Doral High School	9.3	0.93
14	Publix at 74th Street	8.7	0.87
40	Doral Glades Park	5.6	0.56
2	Aloft and Element	3.9	0.39
3	Don Pan	3.3	0.33
32	Intersection 97th and 25th	2.9	0.29

Table 3. Reconstructed magnetic ranking. Aloft and Element at 3.9 mG enters the ten highest location maxima. It is absent from the historical top-ten presentation.

Historical screening categories

The presentation identifies three “extreme” sites: the substation, dog park and Landmark. It identifies four “very high” sites: Fire memorial, Doral High School, Publix at 74th Street and Doral Glades Park. These seven locations account for 15.6% of the 45-point inventory. [2]

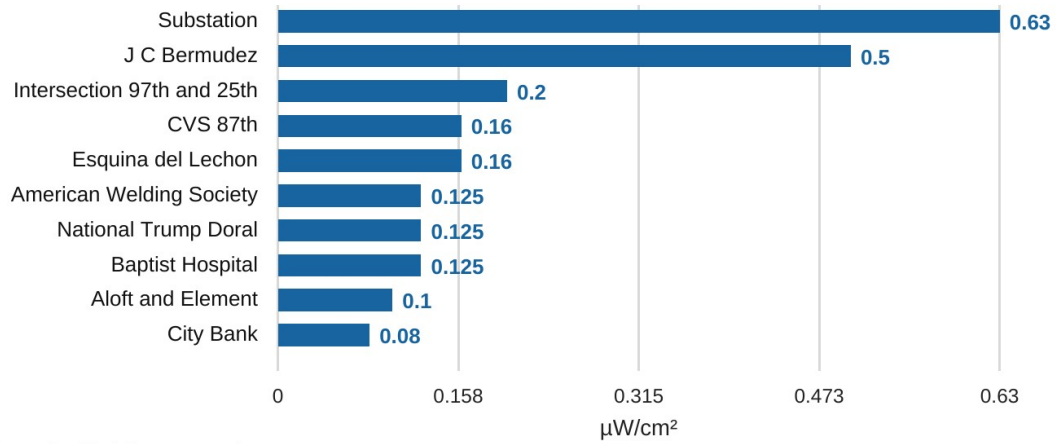
The pooled median reading was 0.4 mG and the mean was 3.38 mG after duplicate removal. The original 4.07 mG “Average Doral” excludes the zero-valued portion of the sorted magnetic list. Those zeros remain in this recalculation as recorded instrument values; they do not establish the absence of a field below the instrument’s sensitivity.

The dog park recorded 27.6 mG and Landmark 25.5 mG, close to the survey maximum of 31.1 mG at the substation. Elevated public-space readings therefore deserve the same follow-up attention as infrastructure measurements. A separate source photograph shows 28.09 mG beside the Doral Trails & Tails sign. This photographic value is documented separately and is not added to the workbook statistics. [1–3]

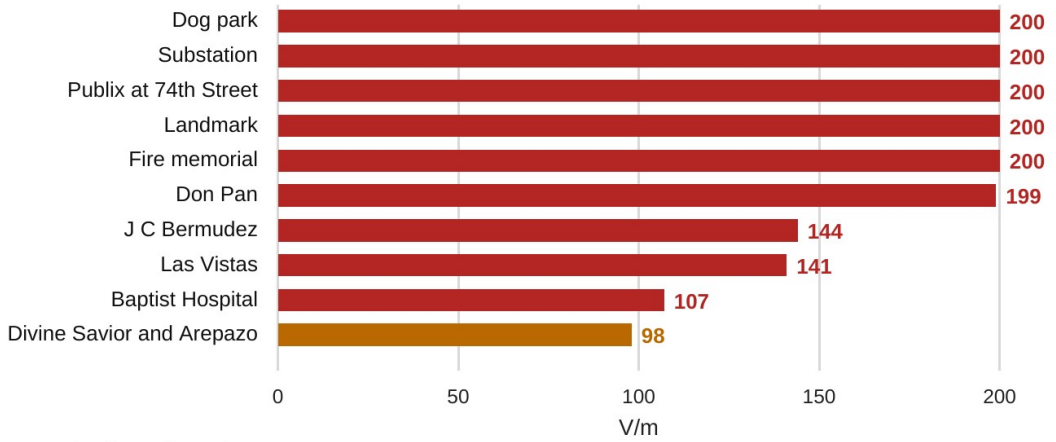
The measured quantity is magnetic flux density B. “Magnetic flux,” used in the original slides, is replaced by the physically appropriate term because the units are μT and mG.

Comparison of the highest location maxima

Radiofrequency power density



ELF and LF electric field strength



ELF and LF magnetic flux density

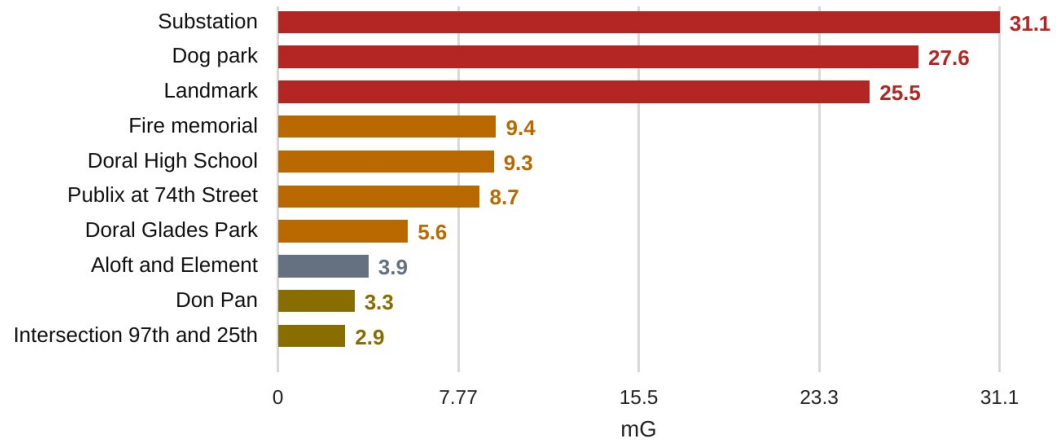


Figure 1. Highest location maxima in the City of Doral, Miami-Dade County, Florida, USA, in 2022. ELF/LF colors reproduce historical project labels: red = extreme; orange = very high; gold = high; gray = unassigned in the selected historic categories. RF blue denotes magnitude only. These colors are not validated health-risk classes. Values use the same color as each bar. Each panel has separate units and scale. [1,2]

Historical screening categories and follow up counts

The categories below document how the 2022 presentation prioritized locations. They describe points selected for investigation, not the proportion of Doral's land area or residents exposed to a verified hazard. A count of points cannot be converted into a citywide exposure map without a spatial sampling model. [2]

Measurement	Extreme	Very high	Combined count	Share of 45 points
Electric field	9	1	10	22.2%
Magnetic flux density	3	4	7	15.6%
Either electric or magnetic	—	—	12 distinct sites	26.7%

Table 4. Counts from the historical selected rankings, rather than newly inferred threshold rules. Five sites appear in both combined electric and magnetic lists; the union is 10 + 7 − 5 = 12. "Severe" is not a separate category in the source.

The five overlapping sites are the dog park, substation, Publix at 74th Street, Landmark and Fire memorial. Electric-only entries in these categories are Don Pan, J. C. Bermudez, Las Vistas, Baptist Hospital and Divine Savior and Arepazo. Magnetic-only entries are Doral High School and Doral Glades Park.

The two biological reference documents

The original BioInitiative RF chart organizes reported findings by exposure level and biological endpoint. Its colors distinguish types of reported effects, including reproductive, neurological and cellular findings. They do not constitute a four-step exposure-severity ladder. The second supplied PDF adds a page headed "Noxtak Classification Chart Based on Levels of Exposure." This is a derivative classification and must be attributed separately. [4,5]

Derivative color	RF range as printed μW/cm²
Gray	100 femtowatts/cm² to 0.0009
Yellow	0.0003 to 0.16
Orange	0.2 to 2
Red	2 to 500

These ranges overlap at the low end, leave a gap between 0.16 and 0.2, and share the value 2 at a boundary. A unique automatic classification requires explicit rules. The maximum Doral RF value of 0.63 μW/cm² falls within the derivative orange interval; it does not fall in the red interval. The original Doral presentation nevertheless labels that location "extreme." The two schemes are therefore not interchangeable.

No new citywide counts are calculated from the derivative RF color scheme. The supplied RF charts also do not supply the V/m or mG cutoffs needed to reproduce the original low frequency severity assignments.

Biological reference framework and interpretation

BioInitiative 2012 compiles reports of biological effects across different frequencies, exposure durations, experimental systems and endpoints. It provides a rationale for investigating selected exposure conditions. Numerical overlap with a published study does not demonstrate the same absorbed dose, biological response or health outcome in Doral. [4]

Examples relevant to the observed RF range

Entry in supplied chart	Reported level μW/cm²	Context needed for interpretation
Navarro 2003	0.01 to 0.11	Human base-station exposure and reported symptoms; an association summarized by the chart.
Schwartz 1990	0.38	Calcium-related response in heart cells; experimental conditions differ from an outdoor spot reading.
Saunders 1981	0.5	Mouse exposure at 2.45 GHz; species, frequency and duration constrain extrapolation.
Avendano 2012	0.5 to 1.0	Human sperm samples in dishes under a WiFi-connected laptop for four hours; not a community health study.

Table 5. Selected reference entries from original chart pages 1–3. These are summaries of the supplied compilation, not independent verification of every underlying study. The report does not assign these outcomes to surveyed locations or residents. [4]

The Doral maximum of 0.63 μW/cm² numerically overlaps some reported study levels. It was recorded in the "5_6" group, whereas the 0.5 μW/cm² mouse entry refers to 2.45 GHz. That mismatch illustrates why power density alone is insufficient for biological equivalence. Exposure duration, modulation, measurement geometry, dosimetry and study quality must also be assessed.

Potential concerns and clinical conclusions

The project uses biological-response references to identify potential concerns for further study. The analyzed records contain no health histories, symptom questionnaires, biomarkers or clinical outcomes, and no exposed-versus-control health comparison. They cannot establish that any field reading caused sleep problems, DNA damage, reproductive effects, immune dysfunction or cancer.

The supplied charts also contain SAR values in W/kg. Outdoor power-density measurements cannot be converted directly into SAR without an appropriate dosimetric model. Similarly, RF biological-response entries cannot establish electric or magnetic thresholds for the low frequency measurements.

ICNIRP's RF guidance uses a separate evidence-assessment process to derive exposure restrictions for adverse health effects. The BioInitiative reference approach and a regulatory compliance assessment answer different questions. This report makes no compliance determination, and overlap with a BioInitiative chart entry is not a regulatory exceedance. [6]

Discussion and study limitations

Meaning of the WiFi result

The combined field account and measurement record support concentrating follow-up RF work on WiFi sources identified during the campaign. The most useful comparison is between source-confirmed readings under documented conditions. The finding does not establish that WiFi is inherently more hazardous than 4G or 5G, nor does it establish the proportion of RF exposure attributable to each technology across Doral.

Frequency and technology must remain distinct. The “5_6” label is a frequency grouping, and several technologies can occupy or share parts of the wider RF spectrum. Additional spectrum traces, antenna information and access-point records would make the reported WiFi attribution more readily auditable. The 2022 observations should not be generalized to later infrastructure deployments.

Location selection and temporal coverage

The 45 locations provide an exploratory inventory rather than a probability sample. Several visits contain more readings than others, and sampling was not synchronized across locations. Network activity and electrical loads may change with time. Pooled readings therefore do not estimate a population-weighted or area-weighted city average, and location maxima depend on the duration and timing of the visit.

The workbook does not establish a standardized daily integration period. A peak observed during a short visit cannot be treated as a continuous exposure, and a low reading cannot establish consistently low conditions. A later campaign must reproduce location, height, orientation, instrument settings and observation duration before making temporal comparisons.

Measurement and source uncertainty

Calibration certificates, uncertainty budgets, exact antenna or probe configurations and complete frequency-response specifications are needed to assess absolute accuracy. The RF outputs are retained as meter-reported power densities. Their equivalence to a calibrated integrated broadband measurement has not been demonstrated. The spectral columns have unequal labeled widths, so their simple average is not a physically justified total RF power density.

Electric and magnetic measurements near substations and lines require separate field characterization. The presentation’s far-field wording does not establish that every measurement satisfies a plane-wave condition. No conversion between low frequency electric and magnetic readings is used.

Classification uncertainty

The historical categories are useful for recovering the project’s intended follow-up priorities. Their severity wording cannot substitute for a documented threshold derivation. The RF references do not validate low frequency cutoffs, and the Noxtak derivative ranges do not reproduce the presentation’s RF categories. These limitations affect the interpretation of labels, while the numerical location maxima remain reportable.

Recommended confirmatory study

A repeat campaign should first revisit the locations with the largest recorded values and resolve the source and instrument questions identified in this report. The objective is to characterize reproducible exposure conditions and support an evidence-based decision about any further assessment.

Priority locations

For combined electric and magnetic fields, begin with the substation, dog park, Landmark, Publix at 74th Street and Fire memorial. Add Don Pan, J. C. Bermudez, Las Vistas, Baptist Hospital and Divine Savior and Arepazo for electric measurements, and Doral High School and Doral Glades Park for magnetic measurements. Include Aloft and Element to confirm its recovered magnetic ranking.

For RF, revisit the substation location and point 8 to confirm both the 0.63 and 0.50 μW/cm² records and the point-8 assignment. Revisit the intersection of 97th and 25th, CVS 87th, Esquina del Lechon and the remaining reconstructed high-RF sites. Access-point ownership and public versus private service should be documented for each attributed source.

RF measurement protocol

Record dated spectrum traces, calibrated power-density measurements, antenna factors, detector and averaging modes, resolution bandwidth and measurement uncertainty. Use consistent antenna height and position. Identify WiFi channels and cellular services explicitly, and report the frequency range actually covered. Where feasible, compare background and controlled source conditions while preserving normal network operation.

Collect comparable observation windows at each location at different times and network loads. Report maxima alongside time-averaged values, variability and the observation duration. An access-point signal identification is evidence about source type; an exposure contribution requires calibrated power integration and a documented measurement method.

Low frequency protocol

Measure electric fields and magnetic flux density separately with calibrated probes and documented frequency coverage. Verify 60 Hz and relevant harmonics where power infrastructure is suspected. Record distance to equipment and lines, spatial gradients and electrical loading conditions. Test whether the 200 V/m readings reflect instrument range behavior. Longer logging in occupied areas is needed to characterize sustained exposure.

Reference review and reporting

Define the exact screening framework before classifying new observations. Review original biological studies for exposure comparability and evidence quality, and document a separate regulatory comparison using the applicable measurement and averaging requirements. Health research, if warranted, needs a separately designed protocol with appropriate exposure assessment and consent.

Success criteria: reproducible hotspot measurements; resolved instrument range and point-ID issues; documented source attribution; and clearly separated numerical results, screening interpretation and regulatory assessment.

Conclusions

The 2022 campaign in the City of Doral, Miami-Dade County, Florida, USA, identified high ELF/LF exposure readings in the surveyed residential surroundings and public spaces associated by the investigator with high voltage lines. Electric fields reached 200 V/m at five sites. Magnetic flux density reached 31.1 mG at the substation, 27.6 mG at the dog park and 25.5 mG at Landmark. These are survey findings, not a present-day citywide exposure estimate. [1–3]

Supplementary RF Explorer testing and access-point verification reported by the investigator support WiFi attribution for the strongest investigated RF signals, including signals recorded in the equipment's "5_6" grouping. The measurement archive does not establish a numerical citywide WiFi contribution or a complete technology-specific comparison of WiFi, 4G and 5G.

The historical selected rankings identify 10 electric and seven magnetic locations in the combined "extreme" and "very high" categories, with 12 distinct locations across the two lists. These represent 26.7% of sampled points, not 26.7% of the city's area or population. They provide a practical inventory for confirmatory measurements.

Public parks and walking areas under or near power lines warrant priority follow-up because people can use them repeatedly. The investigator reports observing no ELF exposure notification in the surveyed public areas in 2022; the extent of citywide notification remains unverified. BioInitiative references identify potential concerns for study, not confirmed harm. Repeat exposure measurements, public-information review and a separately documented assessment of applicable standards should guide subsequent action. [3–6]

References and source records

[1] Envionic Doral (FINAL FINAL) (2).xlsx. Field measurement workbook supplied by the investigator. Sheets BBDD, RF, RF12, Elec, Mag and Sheet1. Campaign year 2022 as confirmed by the investigator.

[2] Doral exploratory project-4.pptx. Original exploratory project presentation. Scope and methods: slide 3. Location inventory: slide 10. Classifications and results: slides 11–15.

[3] Investigator clarifications in the accompanying correspondence, October 2026. RF Explorer tests, access-point checks, interpretation of "5_6," residential and public-space exposure near high voltage lines, and no observed ELF exposure notices during the 2022 assessment. These field observations are attributed to the investigator; spectrum traces and a citywide notification audit were not included.

[4] BioInitiative Working Group. Sage C and Carpenter DO, editors. BioInitiative Report 2012. Reported Biological Effects from Radiofrequency Radiation at Low-Intensity Exposure. Supplied file: BioInitiative Report 2012 RF Exposure Chart ORIGINAL.pdf. Power-density tables pp. 1–5; SAR tables pp. 6–11. Official report index: https://bioinitiative.org/table-of-contents/

[5] Supplied derivative technical summary: Copia_de_BioInitiative_Report_2012_RFexposureChart_PowerDensityMicrowatts_cm2_2.docx.pdf. "Noxtak Classification Chart Based on Levels of Exposure," p. 1. This classification is distinguished from the original study compilation.

[6] International Commission on Non-Ionizing Radiation Protection. Guidelines for Limiting Exposure to Electromagnetic Fields (100 kHz to 300 GHz). Health Physics. 2020;118(5):483–524. doi:10.1097/HP.0000000000001210. https://www.icnirp.org/cms/upload/publications/ICNIRPrfgdl2020.pdf

Appendix A Location maxima at points 1 to 23

The table presents the highest recorded value at each location after reconciliation. Point IDs follow the original 45-location inventory. Short names are preserved or lightly standardized; they are not verified street addresses.

Point	Location	RF µW/cm²	Electric V/m	Magnetic mG
1	Bank of America	0.025	66	0
2	Aloft and Element	0.1	53	3.9
3	Don Pan	0.005	199	3.3
4	City Bank	0.08	8	0.2
5	Navarro	0.08	4.5	0.3
6	Dog park	0.063	200	27.6
7	Substation	0.63	200	31.1
8	J C Bermudez	0.5	144	1.5
9	Eugene B Thomas Park	0.05	5.2	0.2
10	Station 69 fire rescue	0.04	12	0
11	Legacy park	0.0063	1.5	0
12	Tony Bilbao	0.00125	22	2.1
13	Ronald Reagan	0.063	10	0.5
14	Publix at 74th Street	0.01	200	8.7
15	International Science Academy	0.004	5	0.1
16	Doral out	0.0063	0.8	0.4
17	Urbanizacion	0.0063	85	0.5
18	Landmark	0.005	200	25.5
19	Divine Savior and Arepazo	0.02	98	2.5
20	Morgan Levy Park	0.0125	1.6	0.3
21	Country club	0.008	8	0.1
22	International mall hotel	0.01	18	0
23	International mall library	0.008	5	0.2

Source: BBDD point IDs and maxima, with eight electric values recovered from Elec. A maximum of 0 is a recorded instrument output, not proof of a zero field. Point 8 RF is 0.50 µW/cm² in BBDD; its derived RF point-number mismatch remains a verification priority. [1,2]

Appendix A Location maxima at points 24 to 45

The table presents the highest recorded value at each location after reconciliation. Point IDs follow the original 45-location inventory. Short names are preserved or lightly standardized; they are not verified street addresses.

Point	Location	RF µW/cm²	Electric V/m	Magnetic mG
24	Walmart	0.05	8	0.1
25	Florida Sales Tax	0.0025	5.1	0.8
26	Fire memorial	0.05	200	9.4
27	Intercontinental	0.004	3.2	0.4
28	Milerhouse	0.02	43	0
29	CVS 87th	0.16	18	0.3
30	Guadalupe church	0.0125	38	2.3
31	Doral High School	0.025	95	9.3
32	Intersection 97th and 25th	0.2	5.1	2.9
33	L A Fitness	0.002	4.2	0.7
34	CityPlace	0.005	6.2	0.1
35	American Welding Society	0.125	30	2.4
36	National Trump Doral	0.125	28	1.8
37	Univision	0.008	37	0.2
38	Baptist Hospital	0.125	107	2.3
39	Fire Rescue	0.05	17	1.5
40	Doral Glades Park	0.02	19	5.6
41	Las Vistas	0.008	141	0.8
42	Government Center	0.04	8	0.8
43	School center	0.016	48	0.4
44	Esquina del Lechon	0.16	28	0.7
45	58th Palmetto entrance	0.016	13	1.9

Source: BBDD point IDs and maxima, with eight electric values recovered from Elec. A maximum of 0 is a recorded instrument output, not proof of a zero field. Point 8 RF is 0.50 µW/cm² in BBDD; its derived RF point-number mismatch remains a verification priority. [1,2]

Historical category membership

Electric extreme: 3, 6, 7, 8, 14, 18, 26, 38, 41. Electric very high: 19. Magnetic extreme: 6, 7, 18. Magnetic very high: 14, 26, 31, 40. These are presentation labels, not newly inferred numeric cutoffs.

ELF exposure in residential and public spaces

City of Doral, Miami-Dade County, Florida, USA

The 2022 findings identify high electric and magnetic readings within the sampled city locations, with a particular concern for residential surroundings and public recreation or walking areas near high voltage lines. The investigator identifies these corridors as the main ELF exposure setting requiring follow-up. “High” here describes the measured survey pattern and the project’s historical screening framework, not a confirmed health-effect or regulatory threshold. [1–3]

Residential surroundings

Landmark recorded 200 V/m and 25.5 mG. Las Vistas recorded 141 V/m and 0.8 mG. These location maxima show that electric and magnetic fields can differ substantially at the same site. The investigator identifies residential surroundings near high voltage lines as an exposure concern. The archive does not establish indoor residential exposure, dwelling-level averages or the precise contribution of each nearby electrical asset. [1,3]

Public parks and walking corridors

The dog park recorded 200 V/m and 27.6 mG, placing it among the highest electric-field locations and second in the logged magnetic ranking. The largest recorded magnetic value was 31.1 mG at the substation. Doral Glades Park recorded 5.6 mG, while the J. C. Bermudez location recorded 144 V/m. These findings demonstrate that high readings were not confined to a substation setting. They do not establish that every park was more exposed than every residential location. [1]

The PowerPoint’s Trails & Tails photograph shows a magnetic meter displaying 28.09 mG beside a public park sign, with overhead power lines and a pedestrian-side corridor visible. It is direct photographic context for the public-space concern. The photographed reading is not synchronized with an identified workbook record and remains separate from the 45-point statistics. [2]

Near fields and public information

The relevant concern is the low frequency electric and magnetic near field of power infrastructure. These quantities require separate measurement; RF power-density reference levels cannot characterize them. The photographs establish proximity to overhead lines but do not determine voltage, frequency spectrum, exposure duration or a safe-distance boundary.

According to the investigator, no notices informing the public about ELF exposure were observed in the surveyed parks and walking areas under the lines during the 2022 assessment. This is a field observation, not an independently verified finding that the city never notified residents. The photographs do not document every sign or communication channel. A review of site signage, utility information and city communications would resolve the scope of notification. [3]

Confirmatory work should prioritize occupied residential surroundings and publicly accessible paths, repeat measurements under different loads, and make the verified results and their limitations understandable to residents. The 2022 dataset does not establish current conditions.

Photographic reference at Doral Trails and Tails

City of Doral, Miami-Dade County, Florida, USA



Figure 2. Original field photograph from slide 12 of the Doral exploratory PowerPoint. The meter display reads 28.09 mG (2.809 µT) beside the Trails & Tails park sign. Overhead lines and a sidewalk-side corridor are visible. The model label identifies a TENMARS TM-192D triaxial magnetic field meter. The sign visibly carries park-use information; this view alone cannot establish the absence of ELF notices elsewhere. [2]

This photograph supports the concern about public access near power infrastructure. It does not establish long-term exposure or a biological effect. The displayed value is supplementary photographic evidence and has not been pooled with the workbook measurements.

Photographic references near overhead infrastructure

City of Doral, Miami-Dade County, Florida, USA



Figure 3. Two original field photographs from slide 12, presented upright using the rotation already specified in the PowerPoint. Left: overhead lines across an accessible paved area. Right: measurement equipment outside Ronald W. Reagan/Doral Senior High School. The foreground equipment is a field-strength analyzer; neither photograph is used here to infer an ELF reading from its display. [2]

The photographs document fieldwork settings and the visible relationship between public access and infrastructure. They do not identify line voltage or establish that either photograph corresponds to a particular numerical record. The instrument configuration, location coordinates and source distances should be documented in a repeat campaign.

Doral survey geography and park context

City of Doral, Miami-Dade County, Florida, USA

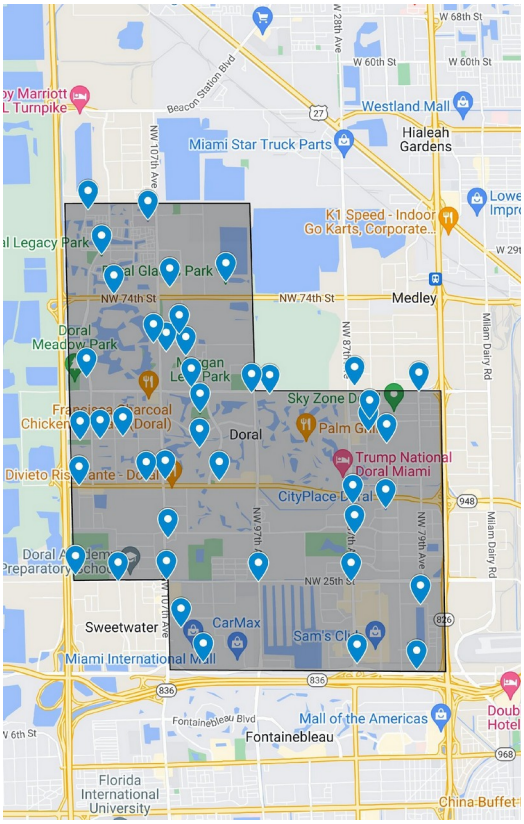


Figure 4. Survey location reference reproduced from slide 10. Pins and shading are retained as supplied. This is an orientation map of the exploratory survey, not a calibrated exposure map or a representation of the percentage of city land affected. [2]



Figure 5. Doral Glades Park reference photograph from slide 21. The workbook maximum at the location named Doral Glades Park is 5.6 mG and 19 V/m. The photograph provides park context; it is not synchronized with those measurements and does not itself show overhead lines at the measurement position. [1,2]