



**HEMPFIELD SCHOOL DISTRICT  
ROHRERSTOWN ELEMENTARY SCHOOL**

**2200 NOLL DRIVE  
LANCASTER, PA**

**RF Emissions Testing Results  
Test Date: February 18, 2020**

Engineer: Jerry Nelson  
Meter: Narda NBM-550  
Calibration Due: April 1, 2021  
Probe: EA5091 Electric Field Probe  
Calibration Due: April 1, 2021  
Test Date: February 18, 2020



## Introduction

V-COMM, L.L.C. has been commissioned by the Hempfield School District, to provide RF exposure measurement and reporting. This report provides the EME field study for Rohrerstown Elementary School.

## EME Field Measurements

The following details the procedure used in collecting EME field measurements. The survey instrument used was setup for recording the field strength at various points around the Rohrerstown Elementary School at 2200 Noll Drive, Lancaster, Pennsylvania.

The model NBM-550 electric field strength meter and model EA5091 field intensity probe, both manufactured by Narda Safety Test Solutions and L3 Technologies Company, were used to collect all the field measurements<sup>1</sup>. The meter has a dynamic range of 30dB and is capable of calculating percentage with respect to FCC maximum permissible exposure (MPE) limits. The probe used is a broadband (300 kHz to 50 GHz) electric field isotropic shaped probe calibrated for the occupational environment. For exposure to multiple frequencies (broadband), the fraction (or percentage) of the MPE produced by frequency is determined and the addition of these fractions (or percentage) must not exceed unity (or 100 percent of FCC standard) to be in compliance with federal requirements.

The instrumentation and the measurement procedures used are based on the references published by the IEEE document (ANSI/IEEE C95.3-1992) and by the NCRP document (NCRP Report No. 199), all approved references by the FCC. Also, the equipment used conforms to FCC 1997 Regulation 300 kHz – 50 GHz, NCRP Report 86, Occupational Environments 300 kHz - 50GHz and ANSI C95.1 – 1982 300kHz – 50 GHz.

A walk around survey was performed around the Rohrerstown Elementary School and its immediate vicinity to determine the areas of high field strength. Measurements were performed inside the school and on the roof.

The measurements for this site were performed utilizing spatial averaging technique, in compliance with FCC requirements. A spatially average measurement is simply an average value derived by making a series of measurements, either in a straight line or over two-dimensional area that is a representative of the human form. Spatially average RF field levels most accurately relate to estimating the whole body averaged specific absorption rate that will result from the exposure. All the major worldwide standards concerned with human exposure to radio frequency radiation have exposure limits based on field levels averaged over the whole body.

## Results

The results of the analysis indicate that the maximum level of RF energy measured in and around Rohrerstown Elementary School to which the general public (“general population/uncontrolled”) may be exposed to, is below all federal health and safety limits. Specifically, field measurements show that the maximum level of RF energy at the Rohrerstown Elementary School is **5.33 %** of FCC Standard for the public environment, which complies with federal RF safety limits.

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<sup>1</sup> Note: The EA5091 Electric Field Probe is calibrated to the FCC Occupational Standard. The conversion to the FCC General Public Standard is to multiply by Occupational measurement by 5.



### Rohrerstown Elementary School Outdoor RF Emissions Testing Locations



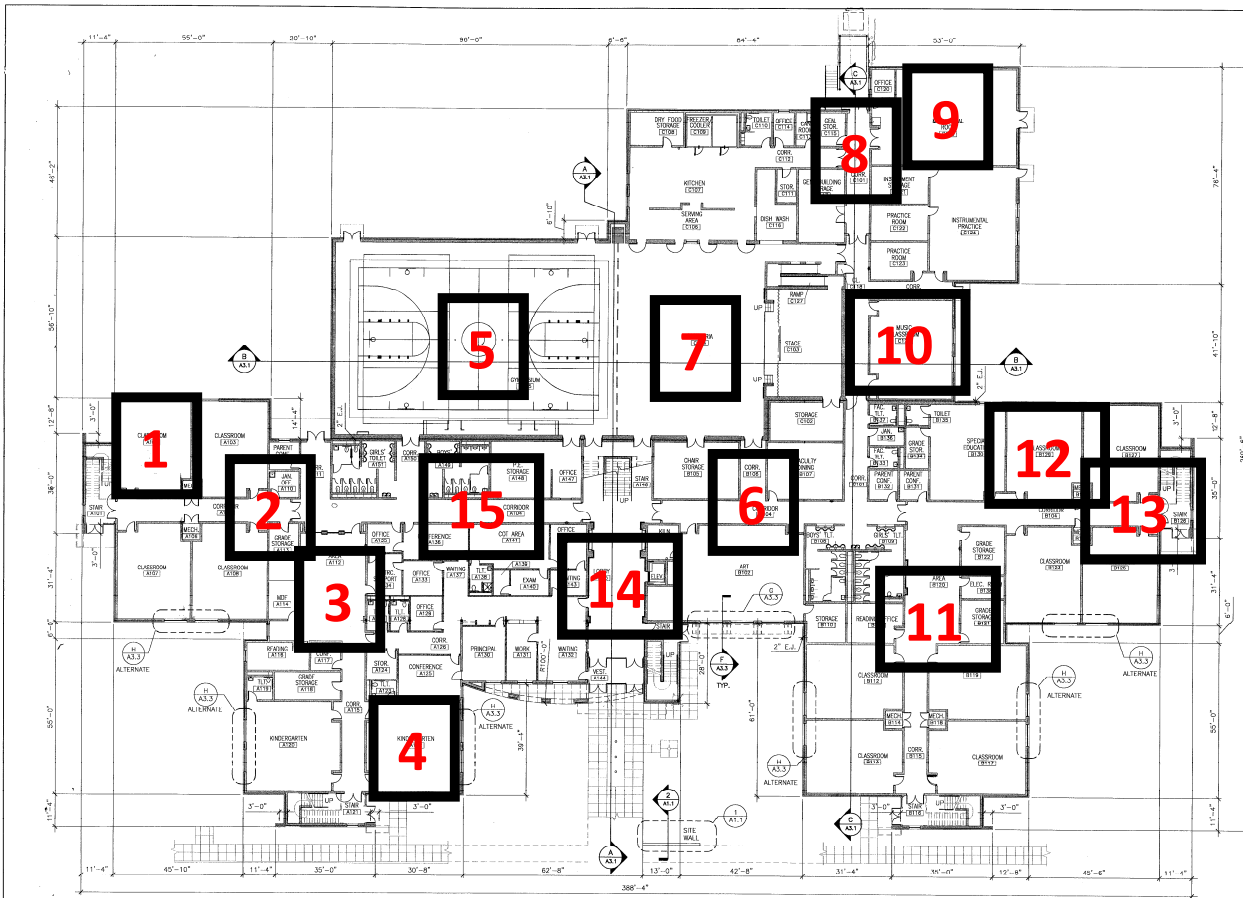
### Rohrerstown Elementary School Outdoor RF Emissions Testing Data

LOC	Date	Timestamp	E-Field % Controlled Standard	E-Field % Uncontrolled Standard
1	02/18/20	10:29:02	0.0686	0.343
2	02/18/20	10:38:33	0.0401	0.2005
3	02/18/20	10:43:23	0.1577	0.7885
4	02/18/20	10:44:41	0.0919	0.4595
5	02/18/20	10:45:39	0.1654	0.827
6	02/18/20	10:46:36	0.3372	1.686
7	02/18/20	10:47:57	0.2159	1.0795
8	02/18/20	10:49:01	0.0599	0.2995
9	02/18/20	10:50:22	0.1062	0.531
10	02/18/20	10:51:24	0.2751	1.3755
11	02/18/20	10:52:13	0.0708	0.354
12	02/18/20	10:53:13	0.0807	0.4035
13	02/18/20	10:54:33	0.1208	0.604
14	02/18/20	10:55:33	0.1408	0.704
15	02/18/20	10:56:56	0.0215	0.1075
16	02/18/20	10:57:52	0.0636	0.318

LOC	Date	Timestamp	E-Field % Controlled Standard	E-Field % Uncontrolled Standard
17	02/18/20	10:58:44	0.0836	0.418
18	02/18/20	10:59:32	0.0286	0.143
19	02/18/20	11:00:38	0.0130	0.065
20	02/18/20	11:01:41	0.1219	0.6095
21	02/18/20	11:02:54	0.3451	1.7255
22	02/18/20	11:03:48	0.4150	2.075
23	02/18/20	11:05:07	0.4750	2.375
24	02/18/20	11:06:50	0.5743	2.8715
25	02/18/20	11:07:45	0.6199	3.0995
26	02/18/20	11:08:31	0.4662	2.331
27	02/18/20	11:09:46	0.3573	1.7865
28	02/18/20	11:10:47	0.6972	3.486
29	02/18/20	11:12:29	0.2710	1.355
30	02/18/20	11:13:54	0.0012	0.006
31	02/18/20	11:15:19	0.0916	0.458



# Rohrerstown Elementary School First Floor RF Emissions Testing Locations



SUN SCREEN ALT.  
NOT ACCEPTED  
N. 6.0 2016

**KEY PLAN**

**REVISIONS**

NO.	DESCRIPTION OF CHANGE

**CRABTREE ROHRBAUGH & ASSOCIATES ARCHITECTS**  
 401 E. WINDING HILL ROAD - MECHANICSBURG PA 17055  
 717-458-0047 FAX 717-458-0047 www.cra-architects.com

ROHRERSTOWN  
 ELEMENTARY SCHOOL  
 LANCASTER, PA

MOUNTVILLE  
 ELEMENTARY SCHOOL  
 MOUNTVILLE, PA

HEMPFIELD SCHOOL DISTRICT

**CR**

PHC  
1539

A1

OVERALL FIRST FLOOR PLAN  
 DATE: FEBRUARY 28, 2020

**A OVERALL FIRST FLOOR PLAN**  
 SCALE: 1/8" = 1'-0"

**SCHOOL NAME ELEMENTARY SCHOOL**

NOTE: "SCHOOL NAME" TO BE REPLACED WITH ROHRERSTOWN AT ROHRERSTOWN, USE AND MOUNTVILLE AT MOUNTVILLE SITE.

**A1 SITE WALL ELEVATION**  
 SCALE: 1/2" = 1'-0"

**A1 SITE WALL DETAIL**  
 SCALE: 1/2" = 1'-0"

**WALL TYPE LEGEND**

<p><b>WALL TYPE</b> </p> <p>4" C.M.U. - SEE FLOOR PLANS FOR MASONRY DIM.</p>	<p><b>WALL TYPE</b> </p> <p>4" MASONRY VENER - 2" CAVITY - 4" MASONRY VENER</p>	<p><b>WALL TYPE</b> </p> <p>4" MASONRY VENER - 2" CAVITY - 4" MASONRY VENER</p>	<p><b>WALL TYPE</b> </p> <p>4" MASONRY VENER - 2" CAVITY - 4" MASONRY VENER</p>
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**NOTES:**

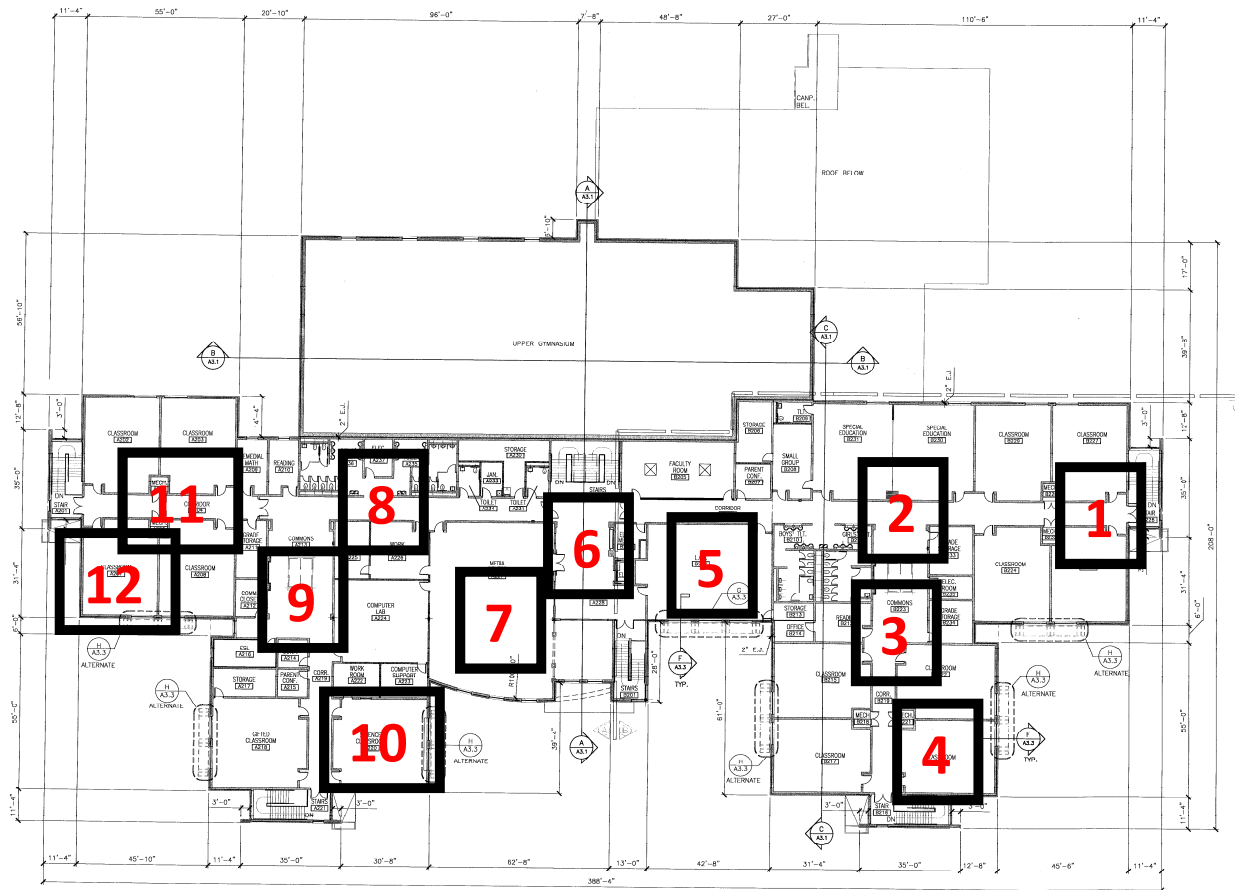
- ALL WALLS TO EXTEND TO UNDERSIDE OF DECK.
- ALL PENETRATIONS THROUGH FIRE-RATED WALLS AND FLOOR ASSEMBLIES INCLUDING, BUT NOT LIMITED TO, PIPING, DUCTWORK, OUTLET BOXES AND CONDUITS, SHALL BE SEALED WITH APPROVED FIRESTOP SYSTEM. OPENINGS IN FIRE-RATED WALLS SHALL BE LIMITED TO MINIMUM SIZES TO ACCOMMODATE PENETRATIONS TO ENSURE INTEGRITY OF THE WALLS' FIRE-RATING.
- REFER TO DRAWING A1.1 FOR LOCATION OF FIRE SEPARATION AND RATED ASSEMBLIES.

1. Drawing A1.1, Detail DWA1.1: Bottom of footing shall be placed 3'-0" below grade. Provide 10#x12" @ footing, two #5 longitudinal bars @ 3' concrete cover from bottom of footing. #4 transverse bars @ 4ft' on.

Rohrerstown Elementary School First Floor RF Emissions Testing Data

Index	Date	Timestamp	E-Field % Controlled Standard	E-Field % Uncontrolled Standard
1	02/18/20	9:26:27	0.2558	1.2790
2	02/18/20	9:28:17	0.0359	0.1795
3	02/18/20	9:30:26	0.0067	0.0335
4	02/18/20	9:31:41	0.0150	0.0750
5	02/18/20	9:33:13	0.2373	1.1865
6	02/18/20	9:36:30	0.0006	0.0030
7	02/18/20	9:37:27	0.0018	0.0090
8	02/18/20	9:38:40	0.0218	0.1090
9	02/18/20	9:39:13	0.0275	0.1375
10	02/18/20	9:41:14	0.1258	0.6290
11	02/18/20	9:42:59	0.0446	0.2230
12	02/18/20	9:44:14	0.0719	0.3595
13	02/18/20	9:45:09	0.0921	0.4605
14	02/18/20	9:46:39	0.0299	0.1495
15	02/18/20	9:47:07	0.0185	0.0925

# Rohrerstown Elementary School Second Floor RF Emissions Testing Locations



**A** OVERALL SECOND FLOOR PLAN  
SCALE: 1/8" = 1'-0"

See Sheet  
ALT.  
NOT RECEIVED  
AT BD DATE

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<b>KEY PLAN</b> 				
<b>REVISIONS</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="font-size: 8px;">NO.</th> <th style="font-size: 8px;">DESCRIPTION OF CHANGE</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> </tr> </tbody> </table>	NO.	DESCRIPTION OF CHANGE		
NO.	DESCRIPTION OF CHANGE			
<b>CRABTREE ROHRBAUGH &amp; ASSOCIATES ARCHITECTS</b> 401 E. WINDING HILL ROAD - MECHANICSBURG PA 17055 717-458-0272 FAX 717-458-0047 <a href="http://www.cra-architects.com">www.cra-architects.com</a>				
MOUNTVILLE ROHRERSTOWN ELEMENTARY SCHOOL ELEMENTARY SCHOOL MOUNTVILLE PA LANCASTER PA HEMPFIELD SCHOOL DISTRICT				
<b>CR</b>				
OVERALL SECOND FLOOR PLAN 100% VDP - 100% 1/8" = 1'-0" DATE: 02/18/2020 REV: FEBRUARY 28, 2020				
PROJECT 1539 & 1540 <b>A1.2</b>				

Rohrerstown Elementary School Second Floor RF Emissions Testing Data

Index	Date	Timestamp	E-Field % Controlled Standard	E-Field % Uncontrolled Standard
1	02/18/20	9:50:13	0.0886	0.4430
2	02/18/20	9:51:08	0.0669	0.3345
3	02/18/20	9:51:45	0.0640	0.3200
4	02/18/20	9:52:43	0.0409	0.2045
<b>5</b>	<b>02/18/20</b>	<b>10:19:01</b>	<b>1.0660</b>	<b>5.3300</b>
6	02/18/20	10:20:06	0.9556	4.7780
7	02/18/20	10:21:33	0.6599	3.2995
8	02/18/20	10:22:54	0.5119	2.5595
9	02/18/20	10:24:07	0.3761	1.8805
10	02/18/20	10:25:28	0.2587	1.2935
11	02/18/20	10:26:42	0.2561	1.2805
12	02/18/20	10:27:52	0.2107	1.0535



Rohrerstown Elementary School Rooftop RF Emissions Testing Locations



Rohrerstown Elementary School Rooftop RF Emissions Testing Data

Index	Date	Timestamp	E-Field % Controlled Standard	E-Field % Uncontrolled Standard
1	02/18/20	9:58:17	0.0725	0.3625
2	02/18/20	9:58:58	0.0350	0.1750
3	02/18/20	9:59:54	0.0600	0.3000
4	02/18/20	10:00:30	0.1224	0.6120
5	02/18/20	10:02:13	0.0812	0.4060
6	02/18/20	10:04:12	0.1326	0.6630
7	02/18/20	10:03:04	0.0542	0.2710
8	02/18/20	10:05:15	0.1796	0.8980
9	02/18/20	10:06:03	0.1844	0.9220
10	02/18/20	10:07:00	0.2522	1.2610
11	02/18/20	10:07:49	0.3665	1.8325
12	02/18/20	10:09:41	0.0095	0.0475
13	02/18/20	10:10:44	0.0769	0.3845
14	02/18/20	10:11:50	0.1828	0.9140
15	02/18/20	10:12:36	0.2009	1.0045