HEMPFIELD SCHOOL DISTRICT
LANDISVILLE MIDDLE SCHOOL

340 MUMMA DRIVE
LANDISVILLE, PA

RF Emissions Testing Results
Test Date: FEBRUARY 14, 2020

Engineer: Jerry Nelson
Meter: Narda NBM-550
Calibration Due: April 1, 2021
Probe: EA5091 Electric Field Probe
Calibration Due: April 1, 2021

V-COMM, L.L.C
2540 US Highway 130, Suite 101
Cranbury, NJ 08512
609-655-1200
609-409-1927

Rev 1 – February 24, 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 Landisville Middle 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 Landisville Middle School at 340 Mumma Drive, Landisville, 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[1]. 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 isotopic 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 survey was performed around the Landisville Middle School and its immediate vicinity to determine the areas of high field strength. Measurements were also performed inside the school and on the roof. At multiple emitter sites, such as the Little Silver Municipal Tower, the total detected field strength of each emitter (to its limit, at its frequency) is summed within the probe to display the result in "% of Std."

The measurements for this site were performed utilizing spatial averaging technique, in compliance with FCC requirements. A spatially average measurement is 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 Landisville Middle 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 Landisville Middle School is **1.8165 %** of FCC Standard for the public environment, which complies with federal RF safety limits.

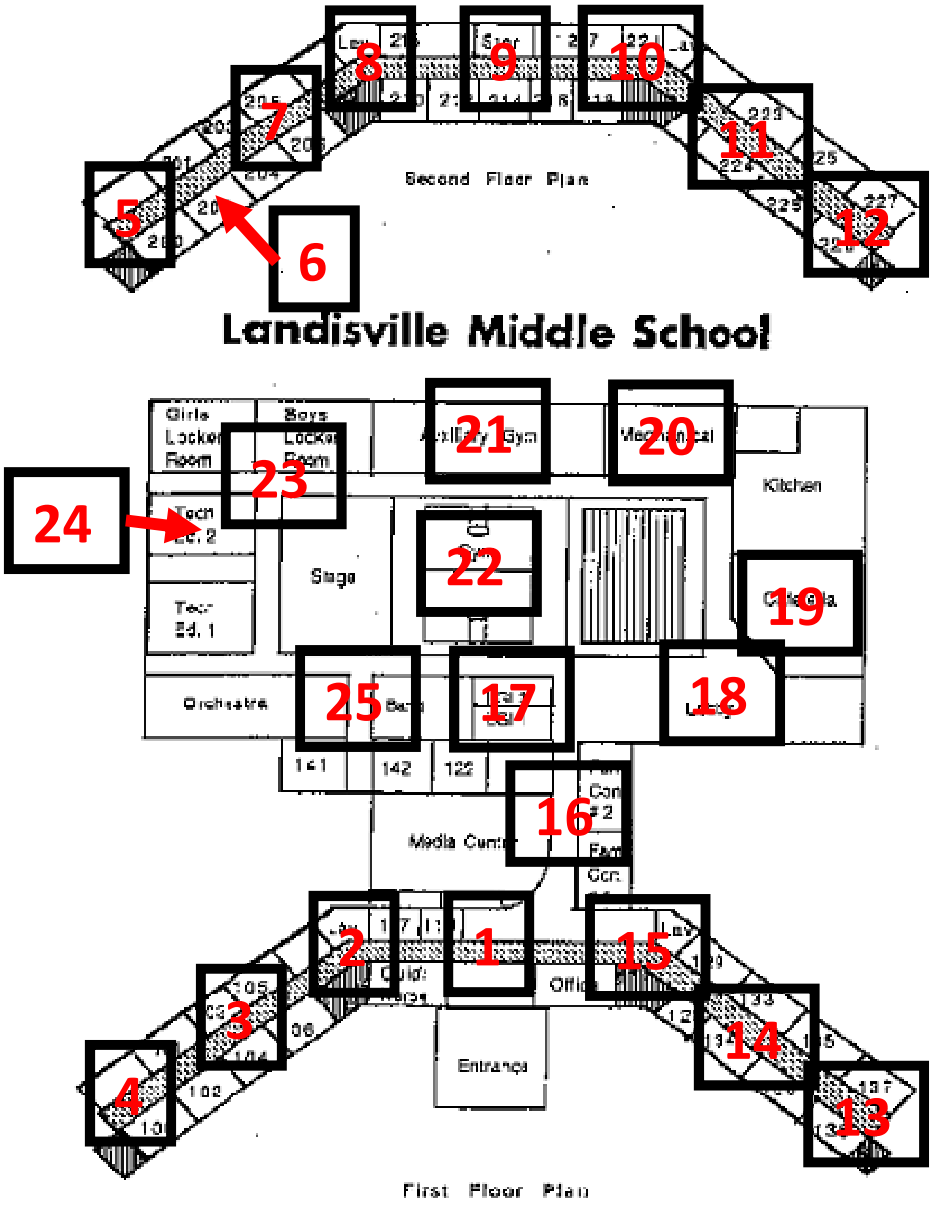
[1] Note: The EA5091 Electric Field Probe is calibrated to the FCC Occupational Standard. The conversion to the FCC General Public Standard is to multiply by Occupational measurement by 5.

Landisville Middle School Outdoor RF Emissions Testing Locations

Landisville Middle School Outdoor RF Emissions Testing Data

Index	Date	Timestamp	E-Field % Controlled Standard	E-Field % Uncontrolled Standard
1	02/14/20	10:34:16	0.0142	0.0710
2	02/14/20	10:35:00	0.0022	0.0110
3	02/14/20	10:36:45	0.0263	0.1315
4	02/14/20	10:38:53	0.0408	0.2040
5	02/14/20	10:39:14	0.0317	0.1585
6	02/14/20	10:40:16	0.1872	0.9360
7	02/14/20	10:41:35	0.1021	0.5105
8	02/14/20	10:42:25	0.1775	0.8875
9	02/14/20	10:43:21	0.2143	1.0715
10	02/14/20	10:52:25	0.0539	0.2695
11	02/14/20	10:52:50	0.0459	0.2295
12	02/14/20	10:53:29	0.0463	0.2315
13	02/14/20	11:00:04	0.1565	0.7825
14	02/14/20	10:59:00	0.1301	0.6505
15	02/14/20	10:58:32	0.1140	0.5700
16	02/14/20	11:00:59	0.0478	0.2390
17	02/14/20	11:04:55	0.0429	0.2145
18	02/14/20	11:05:51	0.2810	1.4050
19	02/14/20	11:06:56	0.0133	0.0665
20	02/14/20	11:09:37	0.0733	0.3665
21	**02/14/20**	**11:10:53**	**0.3633**	**1.8165**
22	02/18/20	8:42:04	0.0595	0.2975
23	02/18/20	8:44:06	0.0075	0.0375
24	02/18/20	8:45:16	0.0417	0.2085
25	02/18/20	8:46:21	0.0275	0.1375
26	02/18/20	8:47:15	0.0335	0.1675
27	02/18/20	8:48:41	0.1175	0.5875

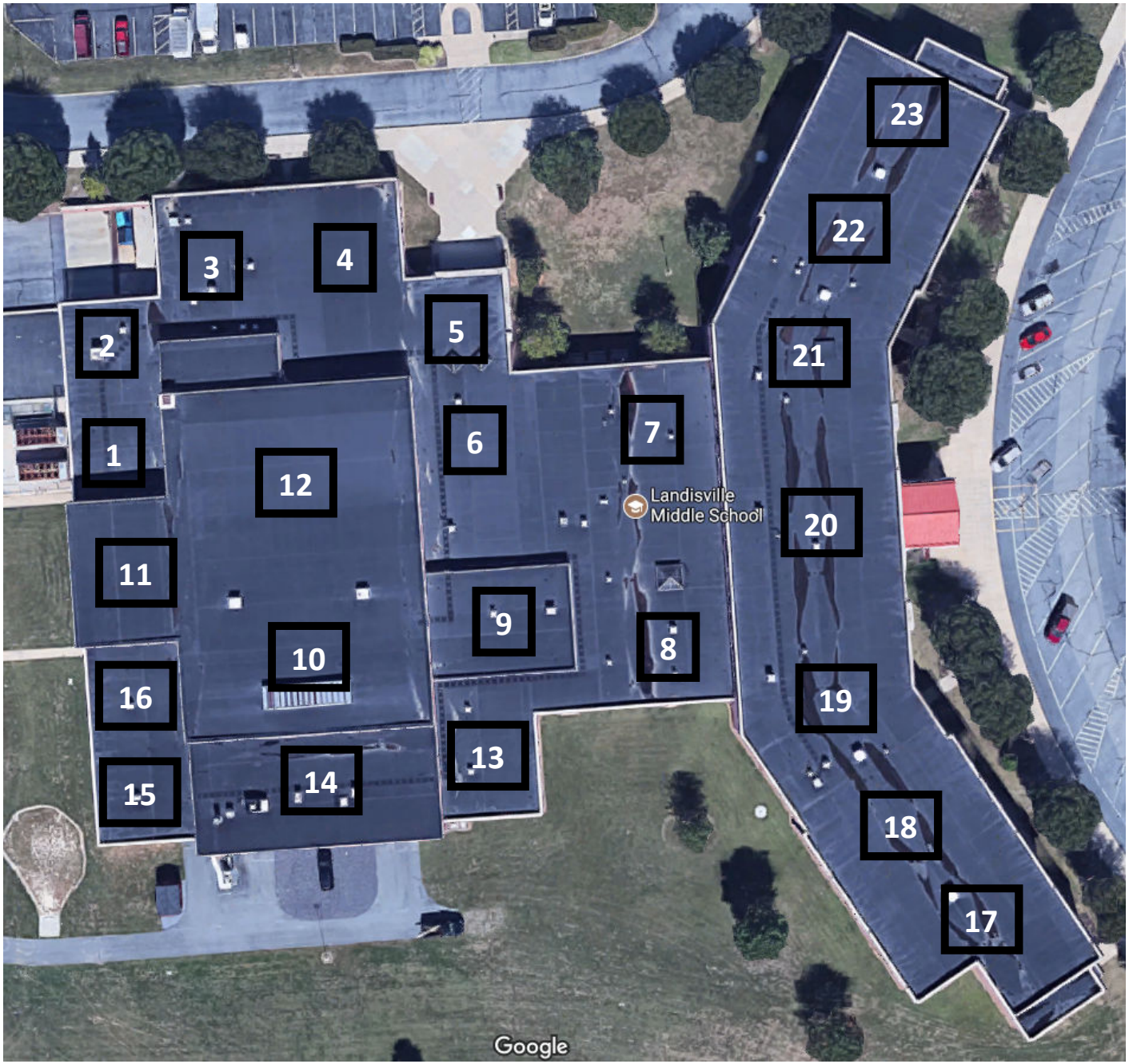
Landisville Middle School Indoor RF Emissions Testing Locations



Landisville Middle School Indoor RF Emissions Testing Data

Index	Date	Timestamp	E-Field % Controlled Standard	E-Field % Uncontrolled Standard
1	02/14/20	9:11:05	0.2179	1.0895
2	02/14/20	9:12:29	0.1001	0.5005
3	02/14/20	9:12:51	0.2284	1.1420
4	02/14/20	9:14:24	0.1412	0.7060
5	02/14/20	9:15:17	0.0170	0.0850
6	02/14/20	9:30:47	0.1133	0.5665
7	02/14/20	9:18:17	0.0320	0.1600
8	02/14/20	9:18:24	0.1844	0.9220
9	02/14/20	9:19:28	0.1807	0.9035
10	02/14/20	9:20:05	0.0640	0.3200
11	02/14/20	9:20:46	0.0972	0.4860
12	02/14/20	9:21:36	0.0943	0.4715
13	02/14/20	9:22:17	0.0663	0.3315
14	02/14/20	9:23:45	0.0007	0.0035
15	02/14/20	9:24:52	0.0052	0.0260
16	02/14/20	9:32:00	0.1046	0.5230
17	02/14/20	9:33:43	0.1487	0.7435
18	02/14/20	9:35:36	0.0421	0.2105
19	02/14/20	9:36:20	0.0085	0.0425
20	02/14/20	9:38:22	0.0163	0.0815
21	02/14/20	9:38:57	0.0575	0.2875
22	02/14/20	9:40:42	0.1290	0.6450
23	02/14/20	9:41:27	0.2973	1.4865
24	02/14/20	9:42:16	0.0286	0.1430
25	02/14/20	9:43:48	0.0189	0.0945

Landisville Middle School Rooftop RF Emissions Testing Locations



Landisville Middle School Roof RF Emissions Testing Data

Location	Date	Timestamp	E-Field % Controlled Standard	E-Field % Uncontrolled Standard
1	02/14/20	9:51:54	0.1372	0.6860
2	02/14/20	9:52:32	0.0902	0.4510
3	02/14/20	9:52:59	0.1456	0.7280
4	02/14/20	9:53:34	0.1664	0.8320
5	02/14/20	9:54:07	0.2218	1.1090
6	02/14/20	9:54:45	0.0553	0.2765
7	02/14/20	9:55:26	0.0777	0.3885
8	02/14/20	9:56:15	0.1884	0.9420
9	02/14/20	9:57:34	0.2716	1.3580
10	02/14/20	9:58:59	0.2834	1.4170
11	02/14/20	9:59:57	0.3096	1.5480
12	02/14/20	10:00:31	0.1028	0.5140
13	02/14/20	10:03:36	0.1362	0.6810
14	02/14/20	10:05:15	0.2091	1.0455
15	02/14/20	10:05:40	0.2164	1.0820
16	02/14/20	10:09:37	0.0040	0.0200
17	02/14/20	10:22:19	0.0025	0.0125
18	02/14/20	10:22:47	0.0112	0.0560
19	02/14/20	10:23:22	0.0002	0.0010
20	02/14/20	10:24:02	0.0046	0.0230
21	02/14/20	10:24:35	0.0110	0.0550
22	02/14/20	10:25:20	0.0926	0.4630
23	02/14/20	10:27:01	0.0160	0.0800