

**EMERGENCY RESPONDER RADIO COMMUNICATIONS SYSTEM
BENCHMARK SURVEY EVALUATION REPORT (08-12-25)**

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PRIMARY EVALUATION

AS BASIS FOR CURRENT BUILDING STATE INTERPRETATION AS PER 2020 NYS FIRE CODE - SECTION 510

1. STONY BROOK FIRE DEPARTMENT - DISPATCH (REPEATED)

- Received-Signal-Strength-Indicator (**RSSI**) and/or Delivered-Audio-Quality (**DAQ**) recordings (For current donor site) found to be deficient in several in-building areas and critical areas.
- 08-11-2025 benchmark survey results do not satisfy code specified signal metric thresholds on all building floor levels **[2020 NYS Fire Code - Sections 510.4.1.1]**
- Results corroborated by Stony Brook Fire Department (SBFD) and Town of Brookhaven Division of Fire Prevention representatives in 08-11-2025 testing mobilization.
- Sample test results utilizing current Setauket Fire Department repeated system and corresponding donor site (Future SBFD Donor Site) appear to be improved.

2. SUFFOLK COUNTY POLICE AND FIRE SYSTEM - SIMULCAST SYSTEM

- Received-Signal-Strength-Indicator (**RSSI**) and/or Delivered-Audio-Quality (**DAQ**) recordings found to be deficient in several in-building areas and critical areas
- 08-11-2025 & 08-12-2025 benchmark survey results do not satisfy code specified signal metric thresholds on all building floor levels **[2020 NYS Fire Code - Sections 510.4.1.1]**
- Results corroborated by Town of Brookhaven Division of Fire Prevention representatives in 08-11-2025 & 08-12-2025 testing mobilizations.

3. SUFFOLK COUNTY POLICE AND FIRE SYSTEM - 700 MHz WEST

- Received-Signal-Strength-Indicator (**RSSI**) and/or Signal-to-Interference-Plus-Noise-Ratio (**SINR**) recordings found to be deficient in several in-building areas and critical areas
- 08-11-2025 benchmark survey results do not satisfy code specified signal metric thresholds on all building floor levels **[2020 NYS Fire Code - Section 510.4.1.1]**
- Ground-level exterior recordings found to be in lower range of what is considered desirable.

ABSTRACT

2.1 OVERVIEW

Emergency Responder Radio Signal Strength testing was conducted August 11th, 2025 & August 12th, 2025 at a New Dormitory Building located on the campus of The Stony Brook School in Stony Brook, NY. The intent of this survey was to capture current building state inbound signal strength metrics for applicable emergency responder radio channels.

2.1.1 EQUIPMENT PARAMETERS

VENDOR	APPLICATION	DEVICE	CALIBRATION VALID THROUGH
PCTEL	SeeHawk Touch rel 4.2.0.5	SeeGull IBflex Device rel 3.9.6.0 SN:082307015	7/16/2027
SBFD	N/A	SBFD Radios	-
Brookhaven FM	N/A	Brookhaven FM Radios	-

TABLE 2: EQUIPMENT PARAMETERS

2.2 TEST PROCEDURE

2.2.1 CONVENTIONAL SYSTEMS

1. Calibrated PCTEL IBFLEX signal receiver programmed with Table 1 referenced channels
2. Stony Brook Fire Department radios programmed to site applicable channels
3. Building floor space divided into equal test areas and designated critical areas
4. Representatives from Stony Brook Fire Department transmitted radio communications
5. Received-Signal-Strength-Indicator (**RSSI**) and Delivered-Audio-Quality (**DAQ**) metrics captured at specified exterior ground-level and in-building locations

Conventional Systems (STONY BROOK FIRE DEPARTMENT - DISPATCH) were captured via Conventional Systems method

2.2.2 TRUNKED SYSTEMS

1. Calibrated PCTEL IBFLEX signal receiver programmed with Table 1 referenced channels
2. Brookhaven Fire Marshal radios programmed to site applicable Simulcast Channels
3. Building floor space divided into equal test areas and designated critical areas
4. Received-Signal-Strength-Indicator (**RSSI**), Signal-to-interference-Plus-Noise-Ratio (**SINR**), Bit-Error-Rate (**BER**), and Delivered-Audio-Quality (**DAQ**) metrics were captured at specified in-building grid locations

Suffolk County Police and Fire Trunked Systems (SIMULCAST SYSTEM , 700 MHz WEST SYSTEM - CC: 1, 2, 3, 4), were captured via Trunked Systems method.

2.2 TEST PROCEDURE (CONTINUED)

2.2.3 TEST PARAMETERS

For the purposes of these tests, criteria utilized to interperet sufficient signal strength and predicted quality of emergency responder radio communications is as follows:

DELIVERED-AUDIO-QUALITY (DAQ) TEST

- DELIVERED AUDIO QUALITY METRICS (DAQ):**
- DAQ 1** Unusable. Speech present but not understandable.
 - DAQ 2** Speech understandable with considerable effort. Requires occasional repetition due to noise/distortion.
 - DAQ 3** Speech understandable with slight effort. Requires occasional repetition due to noise/distortion.
 - DAQ 3.4** Speech understandable without repetition. Some noise/distortion present
 - DAQ 4** Speech easily understood. Occasional noise/distortion present.
 - DAQ 5** Speech easily understood.

TABLE 3: DELIVERED-AUDIO-QUALITY (DAQ) TEST PARAMETERS

GRID TEST

MEASUREMENT		DL AREA POINT	DL CRITICAL POINT
GENERAL POWER (RSSI)		-95.0 dBm	-95.0 dBm
P25 POWER (RSSI)		-95.0 dBm	-95.0 dBm
P25 S/N (SINR)		18.0 dB	18.0 dB
P25 FBER		2.60%	2.60%

MEASUREMENT		SAMPLE COLLECTION METHOD	
P25 TRAFFIC CHANNELS POWER		MAX	
P25 CONTROL CHANNELS POWER		AVERAGE	

TEST DETAILS			
FLOORS TESTED	3	RESULT CALCULATION	BY AREA BY FLOOR
AREAS TESTED	65	AREA PASS CRITERIA	95%
CRITICAL POINTS TESTED	21	CRITICAL POINT PASS CRITERIA	99%

TABLE 4: GRID TEST PARAMETERS

2.3 SITE CONDITIONS

2.3.1 SITE SIGNAL LEVELS (GROUND LEVEL) (CAPTURED 08-11-2025)

DEVICE	BUILDING	REF. POINT	CHANNEL / CH GROUP	FREQ (MHz)	POWER (dBm)	DL S/N (dB)	DL FBER (%)
SeeGull IBflex Device rel 3.9.6.0 SN:082307015	NEW DORMITORY	#2	SIMULCAST SYSTEM	XXX.XXXXX - XXX.XXXXX	-74.85	35.76	0.00
			700 MHz WEST SYSTEM - CC: 1	XXX.XXXXX	-87.47	30.49	0.00
			SBFD - DISPATCH	XXX.XXXXX	-82.90		
		#5	SIMULCAST SYSTEM	XXX.XXXXX - XXX.XXXXX	-71.39	35.41	0.00
			700 MHz WEST SYSTEM - CC: 1	XXX.XXXXX	-87.17	18.76	0.00
			SBFD - DISPATCH	XXX.XXXXX	-84.28	-	-
		#6	SIMULCAST SYSTEM	XXX.XXXXX - XXX.XXXXX	-69.54	37.23	0.00
			700 MHz WEST SYSTEM - CC: 1	XXX.XXXXX	-80.61	33.01	0.00
			SBFD - DISPATCH	XXX.XXXXX	-80.12	-	-
		#7	SIMULCAST SYSTEM	XXX.XXXXX - XXX.XXXXX	-70.80	34.62	0.00
			700 MHz WEST SYSTEM - CC: 1	XXX.XXXXX	-92.08	30.49	0.00
			SBFD - DISPATCH	XXX.XXXXX	-83.95	-	-
		#8	SIMULCAST SYSTEM	XXX.XXXXX - XXX.XXXXX	-72.96	35.26	0.00
			700 MHz WEST SYSTEM - CC: 1	XXX.XXXXX	-81.24	33.81	0.00
			SBFD - DISPATCH	XXX.XXXXX	-85.36		

TABLE 5: EXTERIOR SITE SIGNAL LEVELS
2020 FIRE CODE OF NEW YORK STATE – SECTION 510 – EMERGENCY RESPONDER RADIO COVERAGE

510.1 Emergency responder radio coverage in new buildings. New buildings shall have approved radio coverage for emergency responders within the building based on the existing coverage levels of the public safety communication systems utilized by the jurisdiction, measured at the exterior of the building. This section shall not require the improvement of the existing public safety communication systems

RESULTS

3.1 GRID TEST

BUILDING	FLOOR	CHANNEL / CH GROUP	FREQ (MHz)	MOD	REPORT RESULT
NEW DORMITORY	LOWER LEVEL	SIMULCAST SYSTEM	XXX.XXXXX - XXX.XXXXX	CQPSK	FAIL
		700 MHz WEST SYSTEM - CC: 1	XXX.XXXXX		FAIL
		SBFD - DISPATCH	XXX.XXXXX	-	FAIL
	FIRST FLOOR	SIMULCAST SYSTEM	XXX.XXXXX - XXX.XXXXX	CQPSK	PASS
		700 MHz WEST SYSTEM - CC: 1	XXX.XXXXX		FAIL
		SBFD - DISPATCH	XXX.XXXXX	-	FAIL
	SECOND FLOOR	SIMULCAST SYSTEM	XXX.XXXXX - XXX.XXXXX	CQPSK	PASS
		700 MHz WEST SYSTEM - CC: 1	XXX.XXXXX		FAIL
		SBFD - DISPATCH	XXX.XXXXX	-	FAIL

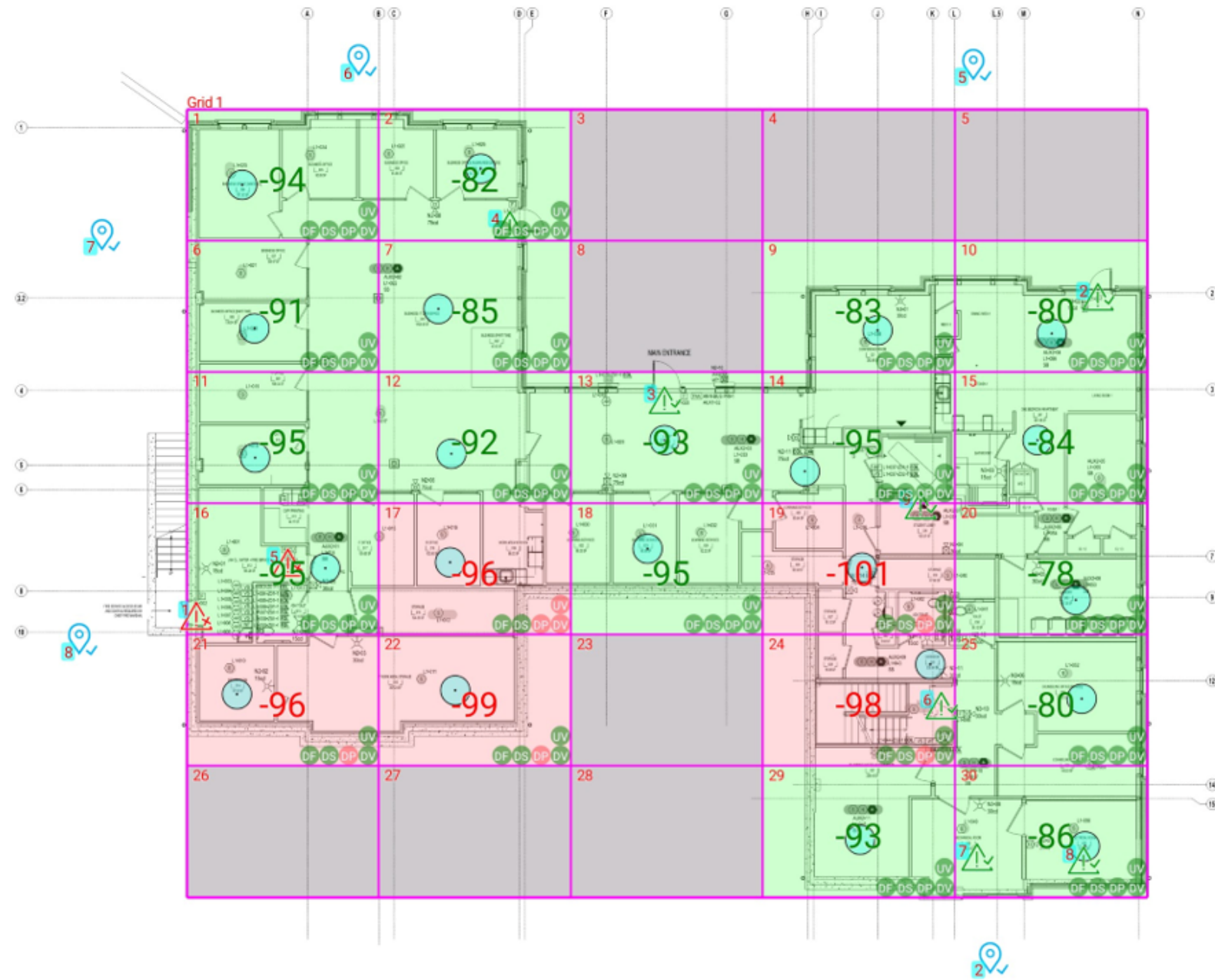
TABLE 6: GRID TEST RESULTS

APPENDIX

4.1 IN-BUILDING TEST

GROUP: SUFFOLK COUNTY POLICE AND FIRE SYSTEM - SIMULCAST
RESULT: **FAIL**

Freq (MHZ)	Tech	Band	Ph.	Type	Mod	NAC	Area Points Passed (%)	Critical Points Passed (%)
	P25	SIMULCAST	1	TC	CQPSK	3C4	17/22 (77%)	7/9 (77%)
			-	TC	_____	_____		
			-	TC	_____	_____		
			-	TC	_____	_____		
			1	TC	CQPSK	3C4		
			-	TC	_____	_____		
			1	TC	CQPSK	3C4		
			-	TC	_____	_____		
			-	TC	_____	_____		
			1	TC	CQPSK	3C4		
			-	TC	_____	_____		
			1	TC	CQPSK	3C4		
			-	TC	_____	_____		
			-	TC	_____	_____		
			-	TC	_____	_____		
			-	TC	_____	_____		
			1	TC	CQPSK	3C4		
			1	TC	CQPSK	3C4		
			-	TC	_____	_____		
			-	TC	_____	_____		
			-	TC	_____	_____		
			1	TC	C4FM	3C4		



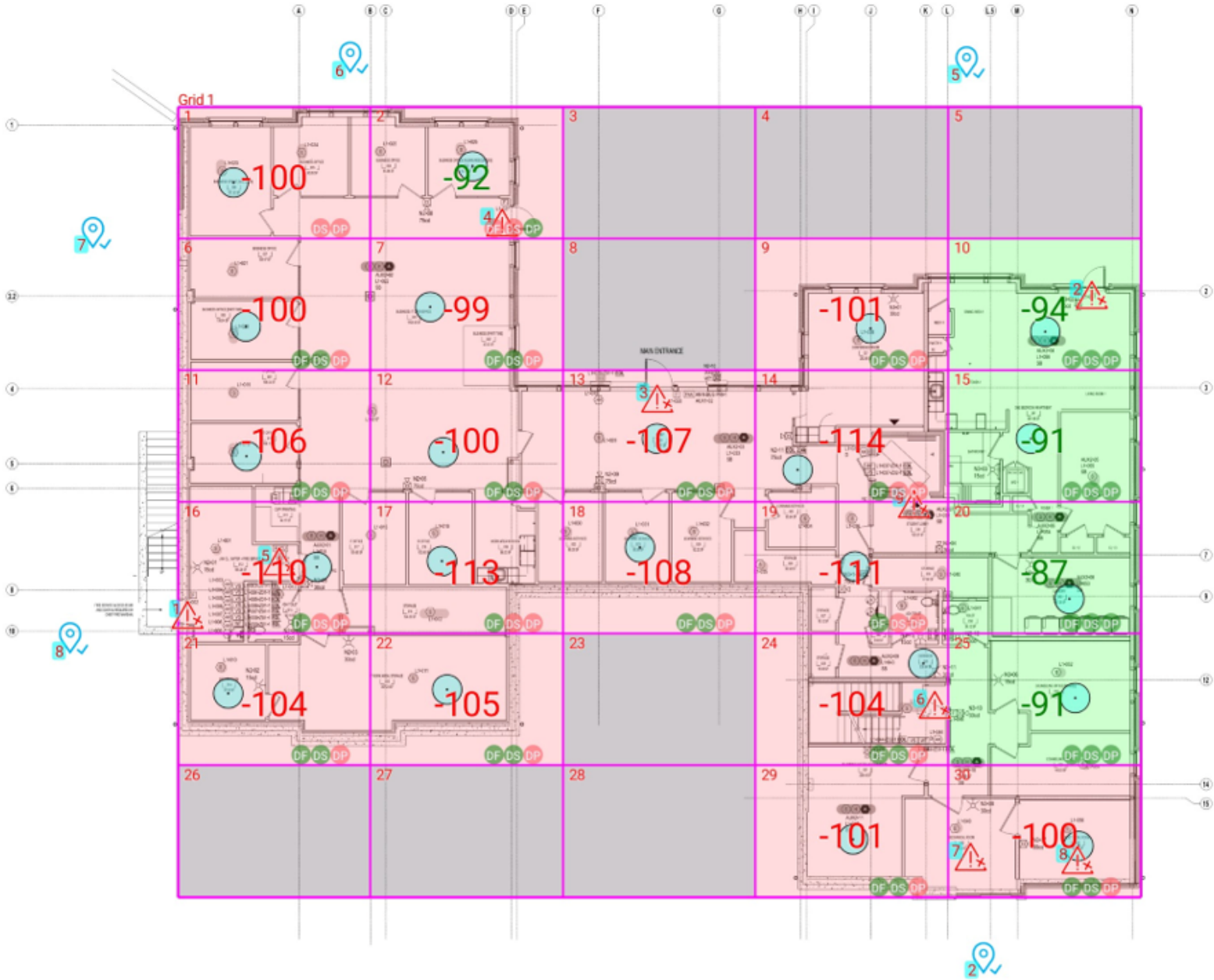
Reference Point	Power (dBm)	DL S/N (dB)	DL FBER (%)
2	-74.85	35.76	0.00
5	-71.39	35.41	0.00
6	-69.54	37.23	0.00
7	-70.80	34.62	0.00
8	-72.96	35.26	0.00

Critical Point	DL Power (dBm)	DL S/N (dB)	DL FBER (%)	DL DAQ	UL DAQ	Result
1	-95.83	31.74	0.00	4.0	4.0	Fail
2	-80.12	35.94	0.00	4.0	4.0	Pass
3	-93.89	32.01	0.00	4.0	4.0	Pass
4	-82.66	33.93	0.00	5.0	5.0	Pass
5	-95.70	31.19	0.00	4.0	4.0	Fail
6	-93.59	31.97	0.00	4.0	4.0	Pass
7	-88.62	35.52	0.00	5.0	5.0	Pass
8	-86.14	35.99	0.00	5.0	5.0	Pass
9	-93.24	31.50	0.00	5.0	5.0	Pass

Grid	Area	DL Power (dBm)	DL S/N (dB)	DL FBER (%)	DL DAQ	UL DAQ	Result
1	1	-93.76	33.59	0.00	5.0	5.0	Pass
1	2	-81.39	34.94	0.00	4.0	4.0	Pass
1	3	NT	NT	NT	NT	NT	NT
1	4	NT	NT	NT	NT	NT	NT
1	5	NT	NT	NT	NT	NT	NT
1	6	-90.65	34.55	0.00	4.0	4.0	Pass
1	7	-84.39	34.79	0.00	5.0	5.0	Pass
1	8	NT	NT	NT	NT	NT	NT
1	9	-82.51	34.86	0.00	5.0	5.0	Pass
1	10	-79.19	36.35	0.00	4.0	4.0	Pass
1	11	-94.24	33.88	0.00	4.0	4.0	Pass
1	12	-91.63	33.48	0.00	5.0	5.0	Pass
1	13	-92.55	33.45	0.00	5.0	5.0	Pass
1	14	-94.44	34.43	0.00	3.0	3.0	Pass
1	15	-83.08	35.64	0.00	5.0	5.0	Pass
1	16	-94.42	30.60	0.00	5.0	5.0	Pass
1	17	-95.81	29.26	0.00	2.0	2.0	Fail
1	18	-94.96	30.05	0.00	4.0	4.0	Pass
1	19	-100.91	27.87	0.00	5.0	5.0	Fail
1	20	-77.24	35.50	0.00	5.0	5.0	Pass
1	21	-95.69	30.15	0.00	4.0	4.0	Fail
1	22	-98.34	30.71	0.00	5.0	5.0	Fail
1	23	NT	NT	NT	NT	NT	NT
1	24	-97.41	32.00	0.00	5.0	5.0	Fail
1	25	-79.92	35.62	0.00	3.0	3.0	Pass
1	26	NT	NT	NT	NT	NT	NT
1	27	NT	NT	NT	NT	NT	NT
1	28	NT	NT	NT	NT	NT	NT
1	29	-92.02	30.95	0.00	4.0	4.0	Pass
1	30	-85.47	35.15	0.00	4.0	4.0	Pass

GROUP: SUFFOLK COUNTY POLICE AND FIRE SYSTEM - 700 MHz WEST - CHANNEL: 1
RESULT: FAIL

Freq (MHZ)	Tech	Band	Ph.	Type	Mod	NAC	Area Points Passed (%)	Critical Points Passed (%)
	P25	700 MHz WEST	1	CC	CQPSK	3C3	4/22 (18%)	0/9 (0%)
		CC	-	CC				
			-	CC				
			-	CC				



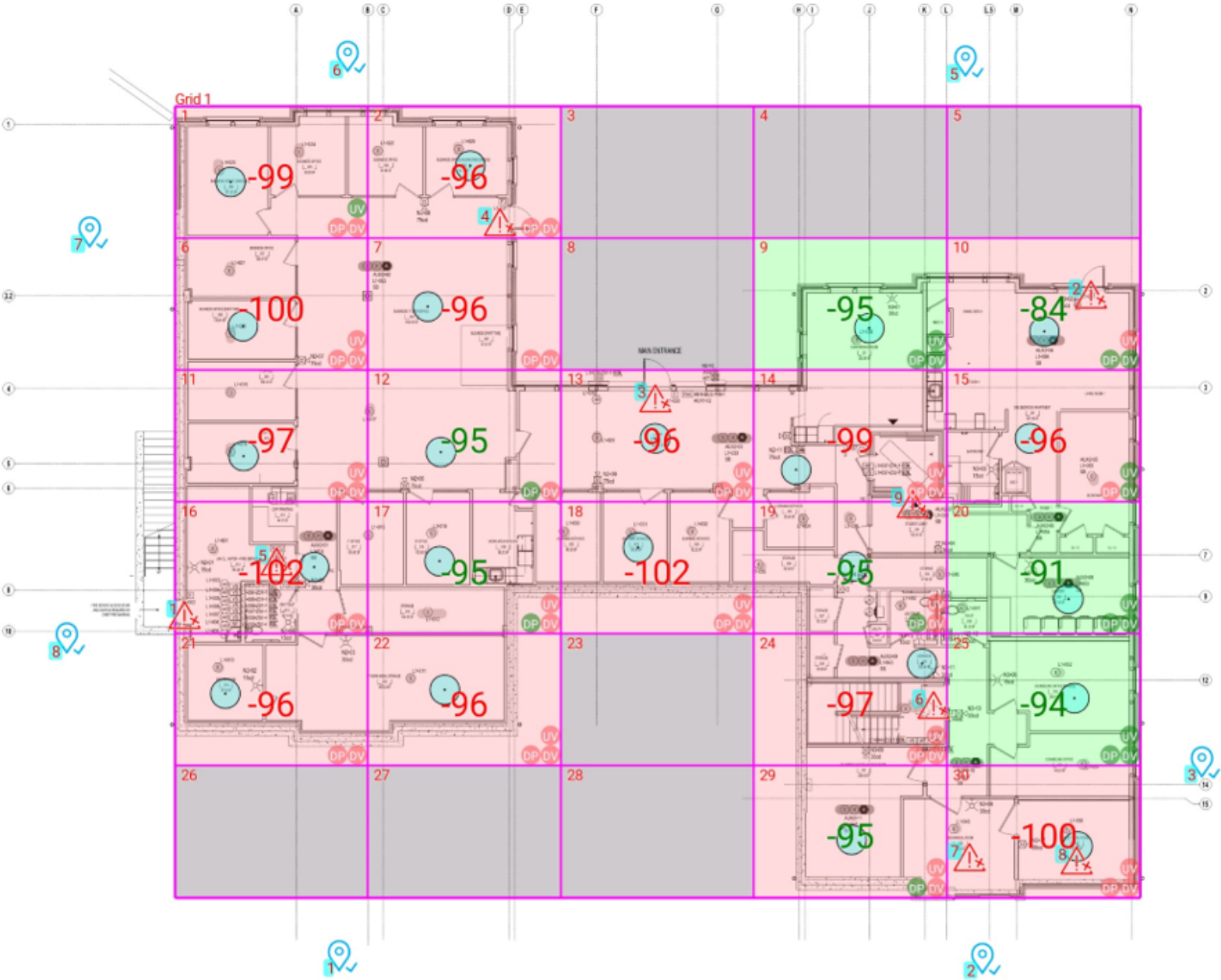
Reference Point	Power (dBm)	DL S/N (dB)	DL FBER (%)
2	-87.47	30.49	0.00
5	-87.17	18.76	0.00
6	-80.61	33.01	0.00
7	-92.08	30.49	0.00
8	-81.24	33.81	0.00

Critical Point	DL Power (dBm)	DL S/N (dB)	DL FBER (%)	Result
1	-107.81	17.11	0.00	Fail
2	-97.18	31.18	0.00	Fail
3	-106.61	18.78	0.00	Fail
4	-96.09	24.82	0.00	Fail
5	-102.87	22.87	0.00	Fail
6	-103.83	19.96	0.00	Fail
7	-100.12	25.85	0.00	Fail
8	-97.29	28.26	0.00	Fail
9	-103.85	18.62	0.36	Fail

Grid	Area	DL Power (dBm)	DL S/N (dB)	DL FBER (%)	Result
1	1	-99.51			Fail
1	2	-91.19	10.78	5.40	Fail
1	3	NT	NT	NT	NT
1	4	NT	NT	NT	NT
1	5	NT	NT	NT	NT
1	6	-99.64	23.44	0.00	Fail
1	7	-98.84	23.32	0.00	Fail
1	8	NT	NT	NT	NT
1	9	-100.42	23.76	0.00	Fail
1	10	-93.13	29.03	0.00	Pass
1	11	-105.91	21.05	0.00	Fail
1	12	-99.35	26.30	0.00	Fail
1	13	-106.89	21.79	0.00	Fail
1	14	-113.78	11.47	0.52	Fail
1	15	-90.55	32.14	0.00	Pass
1	16	-109.50	12.57	0.00	Fail
1	17	-112.65	16.07	0.25	Fail
1	18	-107.16	18.18	0.00	Fail
1	19	-110.97	15.46	0.00	Fail
1	20	-86.26	33.54	0.00	Pass
1	21	-103.57	26.50	0.00	Fail
1	22	-104.80	21.84	0.00	Fail
1	23	NT	NT	NT	NT
1	24	-103.98	21.89	0.00	Fail
1	25	-90.21	32.42	0.00	Pass
1	26	NT	NT	NT	NT
1	27	NT	NT	NT	NT
1	28	NT	NT	NT	NT
1	29	-100.81	24.65	0.00	Fail
1	30	-99.54	23.81	0.00	Fail

GROUP: STONY BROOK FIRE DEPARTMENT - DISPATCH (REPEATED)
RESULT: **FAIL**

Freq (MHZ)	Tech	Band	Ph.	Type	Mod	NAC	Area Points Passed (%)	Critical Points Passed (%)
	CUSTOM POWER CHANNEL	SBFD - DISPATCH					3/22 (13%)	0/9 (0%)



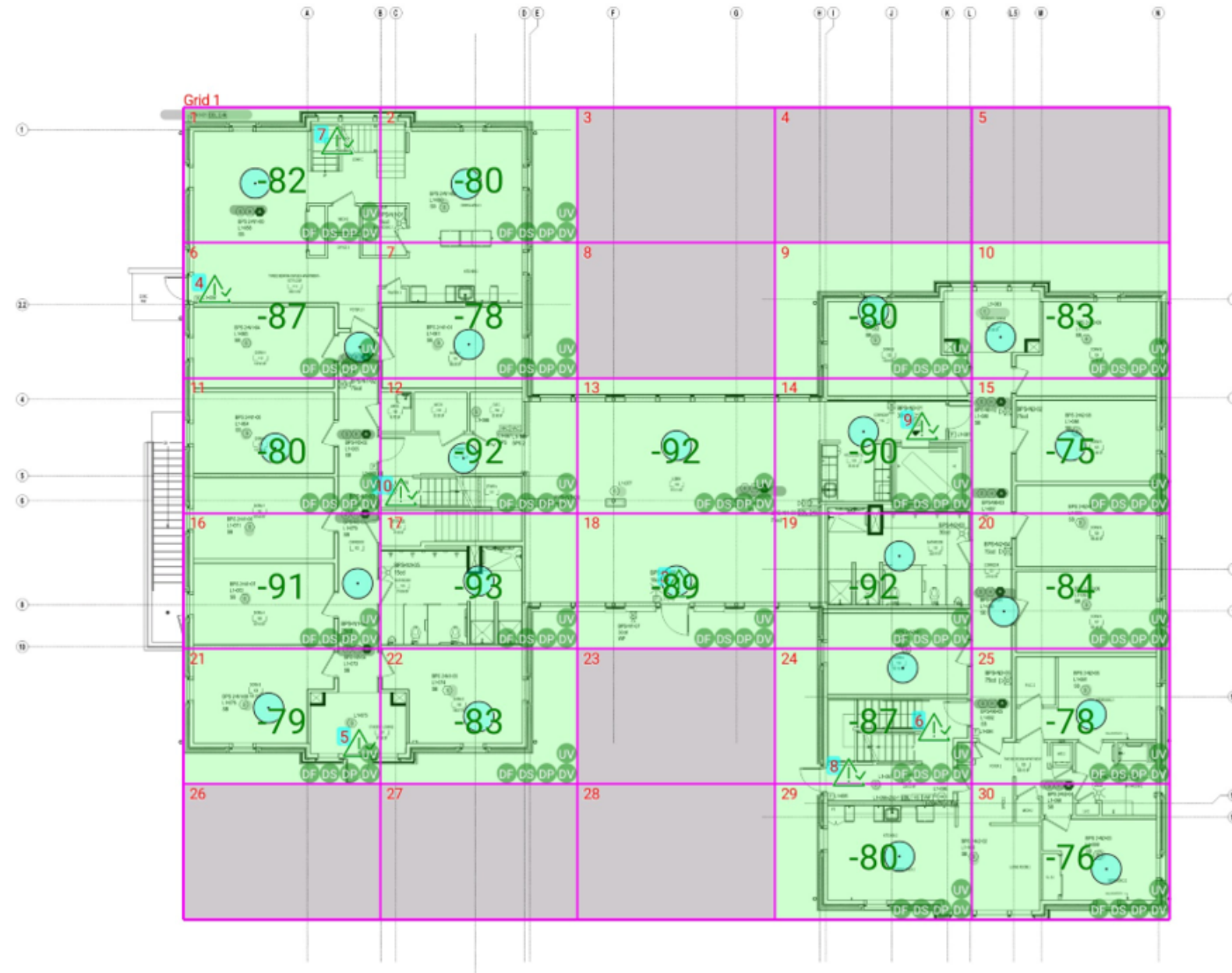
Reference Point	Power (dBm)
1	-85.75
2	-82.90
3	-90.04
5	-84.28
6	-80.12
7	-83.95
8	-85.36

Critical Point	DL Power (dBm)	DL DAQ	UL DAQ	Result
1	-97.97	1.0	1.0	Fail
2	-94.09	2.0	2.0	Fail
3	-94.90	2.0	1.0	Fail
4	-97.18	3.0	3.0	Fail
5	-94.77	1.0	1.0	Fail
6	-94.70	2.0	2.0	Fail
7	-122.33	2.0	2.0	Fail
8	-100.96	1.0	1.0	Fail
9	-104.32	3.0	2.0	Fail

Grid	Area	DL Power (dBm)	DL DAQ	UL DAQ	Result
1	1	-98.84	2.0	4.0	Fail
1	2	-95.33	2.0	2.0	Fail
1	3	NT	NT	NT	NT
1	4	NT	NT	NT	NT
1	5	NT	NT	NT	NT
1	6	-99.57	1.0	1.0	Fail
1	7	-95.66	1.0	1.0	Fail
1	8	NT	NT	NT	NT
1	9	-94.95	4.0	4.0	Pass
1	10	-83.52	3.0	2.0	Fail
1	11	-96.44	2.0	1.0	Fail
1	12	-94.99	2.0	2.0	Fail
1	13	-95.23	2.0	2.0	Fail
1	14	-98.48	2.0	2.0	Fail
1	15	-95.29	4.0	3.0	Fail
1	16	-101.42	1.0	1.0	Fail
1	17	-94.99	1.0	1.0	Fail
1	18	-101.05	0.0	0.0	Fail
1	19	-95.00	2.0	2.0	Fail
1	20	-90.64	3.0	3.0	Pass
1	21	-95.42	2.0	2.0	Fail
1	22	-95.57	1.0	2.0	Fail
1	23	NT	NT	NT	NT
1	24	-96.14	2.0	2.0	Fail
1	25	-93.35	3.0	3.0	Pass
1	26	NT	NT	NT	NT
1	27	NT	NT	NT	NT
1	28	NT	NT	NT	NT
1	29	-94.78	0.0	0.0	Fail
1	30	-99.31	1.0	1.0	Fail

GROUP: SUFFOLK COUNTY POLICE AND FIRE SYSTEM - SIMULCAST
RESULT: PASS

Freq (MHZ)	Tech	Band	Ph.	Type	Mod	NAC	Area Points Passed (%)	Critical Points Passed (%)
	P25	SIMULCAST	1	TC	CQPSK	3C4	22/22 (100%)	8/8 (100%)
			-	TC	_____	_____		
			-	TC	_____	_____		
			-	TC	_____	_____		
			1	TC	CQPSK	3C4		
			-	TC	_____	_____		
			1	TC	CQPSK	3C4		
			-	TC	_____	_____		
			-	TC	_____	_____		
			1	TC	CQPSK	3C4		
			-	TC	_____	_____		
			1	TC	CQPSK	3C4		
			-	TC	_____	_____		
			-	TC	_____	_____		
			-	TC	_____	_____		
			-	TC	_____	_____		
			1	TC	CQPSK	3C4		
			1	TC	CQPSK	3C4		
			-	TC	_____	_____		
			-	TC	_____	_____		
			-	TC	_____	_____		
			1	TC	C4FM	3C4		

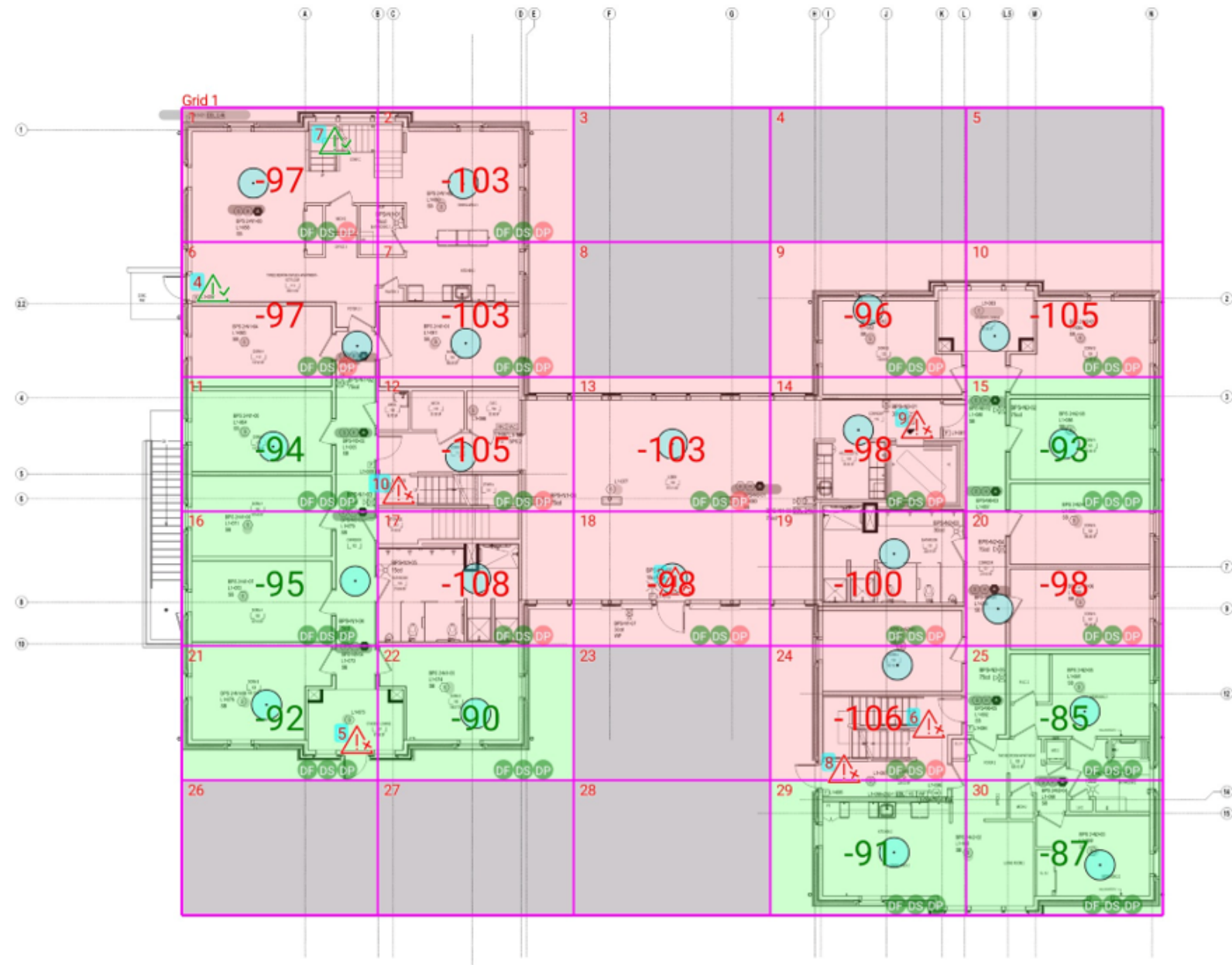


Critical Point	DL Power (dBm)	DL S/N (dB)	DL FBER (%)	DL DAQ	UL DAQ	Result
3	-85.42	33.38	0.00	4.0	4.0	Pass
4	-79.42	34.66	0.00	5.0	5.0	Pass
5	-84.02	34.32	0.00	3.0	3.0	Pass
6	-89.24	33.41	0.00	5.0	5.0	Pass
7	-80.45	35.10	0.00	5.0	5.0	Pass
8	-84.57	33.48	0.00	5.0	5.0	Pass
9	-91.10	32.65	0.00	5.0	5.0	Pass
10	-93.14	33.44	0.00	4.0	4.0	Pass

Grid	Area	DL Power (dBm)	DL S/N (dB)	DL FBER (%)	DL DAQ	UL DAQ	Result
1	1	-81.61	34.94	0.00	5.0	5.0	Pass
1	2	-79.87	36.07	0.00	5.0	5.0	Pass
1	3	NT	NT	NT	NT	NT	NT
1	4	NT	NT	NT	NT	NT	NT
1	5	NT	NT	NT	NT	NT	NT
1	6	-86.74	34.09	0.00	5.0	5.0	Pass
1	7	-77.97	36.09	0.00	5.0	5.0	Pass
1	8	NT	NT	NT	NT	NT	NT
1	9	-79.74	35.20	0.00	4.0	4.0	Pass
1	10	-82.80	36.03	0.00	5.0	5.0	Pass
1	11	-79.88	34.44	0.00	4.0	4.0	Pass
1	12	-91.68	32.70	0.00	5.0	5.0	Pass
1	13	-91.13	31.41	0.00	4.0	4.0	Pass
1	14	-89.64	33.23	0.00	5.0	5.0	Pass
1	15	-74.91	35.44	0.00	5.0	5.0	Pass
1	16	-90.46	31.73	0.00	5.0	5.0	Pass
1	17	-92.09	30.61	0.00	5.0	5.0	Pass
1	18	-88.72	35.72	0.00	5.0	5.0	Pass
1	19	-91.77	33.41	0.00	4.0	4.0	Pass
1	20	-83.53	34.41	0.00	4.5	4.5	Pass
1	21	-78.43	34.64	0.00	4.0	4.0	Pass
1	22	-82.07	35.00	0.00	4.0	4.0	Pass
1	23	NT	NT	NT	NT	NT	NT
1	24	-86.34	30.97	0.00	4.0	4.0	Pass
1	25	-77.79	35.40	0.00	5.0	5.0	Pass
1	26	NT	NT	NT	NT	NT	NT
1	27	NT	NT	NT	NT	NT	NT
1	28	NT	NT	NT	NT	NT	NT
1	29	-79.18	36.85	0.00	5.0	5.0	Pass
1	30	-75.58	35.89	0.00	5.0	5.0	Pass

GROUP: SUFFOLK COUNTY POLICE AND FIRE SYSTEM - 700 MHz WEST - CHANNEL: 1
RESULT: FAIL

Freq (MHZ)	Tech	Band	Ph.	Type	Mod	NAC	Area Points Passed (%)	Critical Points Passed (%)
	P25	700 MHz WEST CC	1	CC	CQPSK	3C3	8/22 (36%)	2/8 (25%)
			—	CC	—	—		
			—	CC	—	—		
			—	CC	—	—		

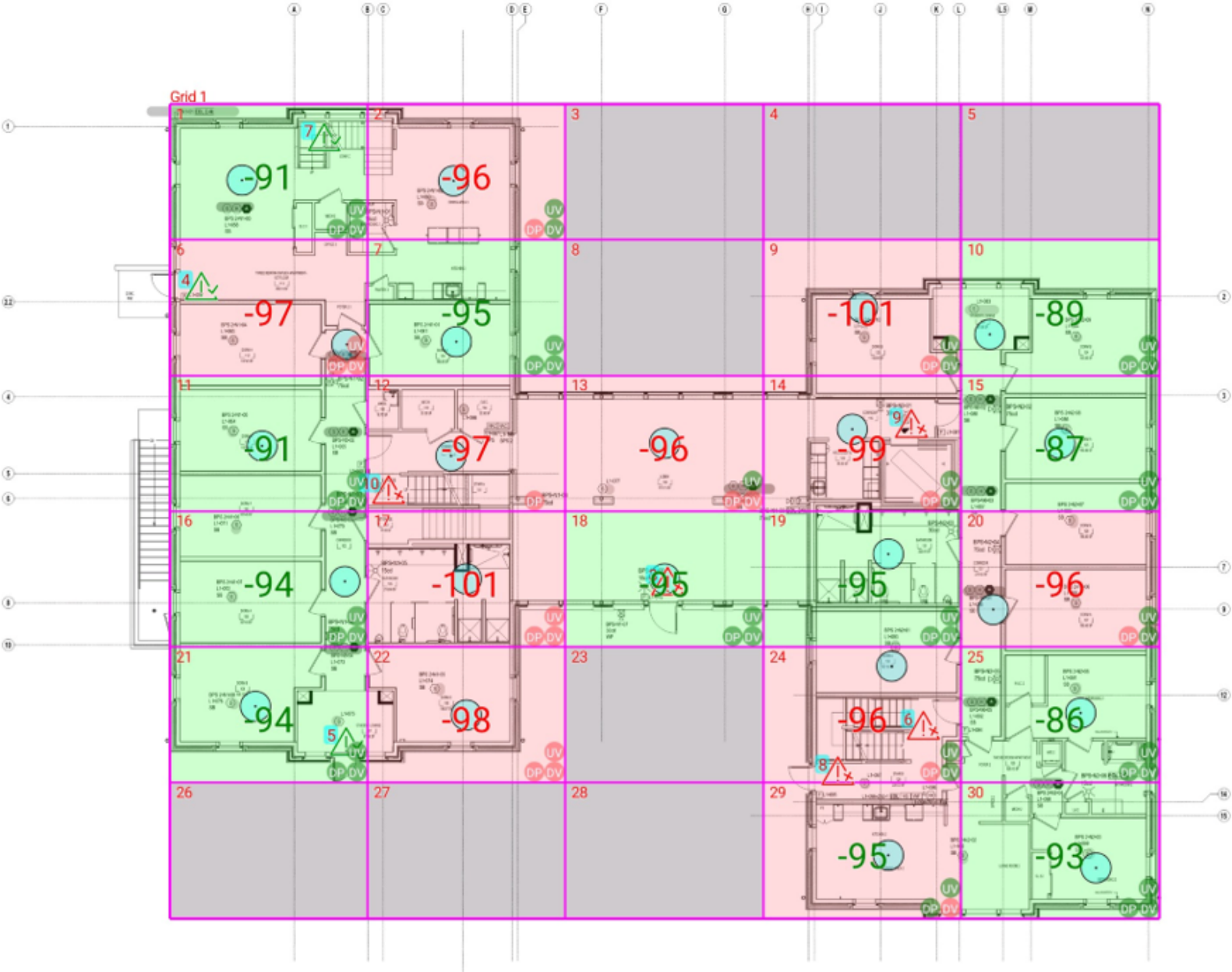


Critical Point	DL Power (dBm)	DL S/N (dB)	DL FBER (%)	Result
3	-100.36	24.22	0.00	Fail
4	-92.47	28.84	0.00	Pass
5	-99.09	25.45	0.00	Fail
6	-95.98	27.97	0.00	Fail
7	-94.23	30.01	0.00	Pass
8	-98.84	25.19	0.00	Fail
9	-100.04	25.34	0.00	Fail
10	-108.64	17.18	0.00	Fail

Grid	Area	DL Power (dBm)	DL S/N (dB)	DL FBER (%)	Result
1	1	-96.38	28.17	0.00	Fail
1	2	-102.04	25.44	0.00	Fail
1	3	NT	NT	NT	NT
1	4	NT	NT	NT	NT
1	5	NT	NT	NT	NT
1	6	-96.71	27.91	0.00	Fail
1	7	-102.93	22.35	0.90	Fail
1	8	NT	NT	NT	NT
1	9	-95.85	28.41	0.00	Fail
1	10	-104.03	21.51	0.00	Fail
1	11	-93.86	28.05	0.00	Pass
1	12	-104.48	21.68	0.00	Fail
1	13	-102.75	21.77	0.00	Fail
1	14	-97.96	27.50	0.00	Fail
1	15	-92.57	30.76	0.00	Pass
1	16	-94.15	30.45	0.00	Pass
1	17	-107.59	20.84	0.00	Fail
1	18	-97.39	25.89	0.00	Fail
1	19	-99.46	23.50	0.00	Fail
1	20	-97.59	25.52	0.00	Fail
1	21	-91.32	30.29	0.00	Pass
1	22	-89.98	30.30	0.00	Pass
1	23	NT	NT	NT	NT
1	24	-105.42	21.27	0.00	Fail
1	25	-84.60	33.84	0.00	Pass
1	26	NT	NT	NT	NT
1	27	NT	NT	NT	NT
1	28	NT	NT	NT	NT
1	29	-90.54	31.80	0.00	Pass
1	30	-86.86	33.26	0.00	Pass

GROUP: STONY BROOK FIRE DEPARTMENT - DISPATCH (REPEATED)
RESULT: **FAIL**

Freq (MHZ)	Tech	Band	Ph.	Type	Mod	NAC	Area Points Passed (%)	Critical Points Passed (%)
	CUSTOM POWER CHANNEL	SBFD - DISPATCH					11/22 (50%)	3/8 (37%)

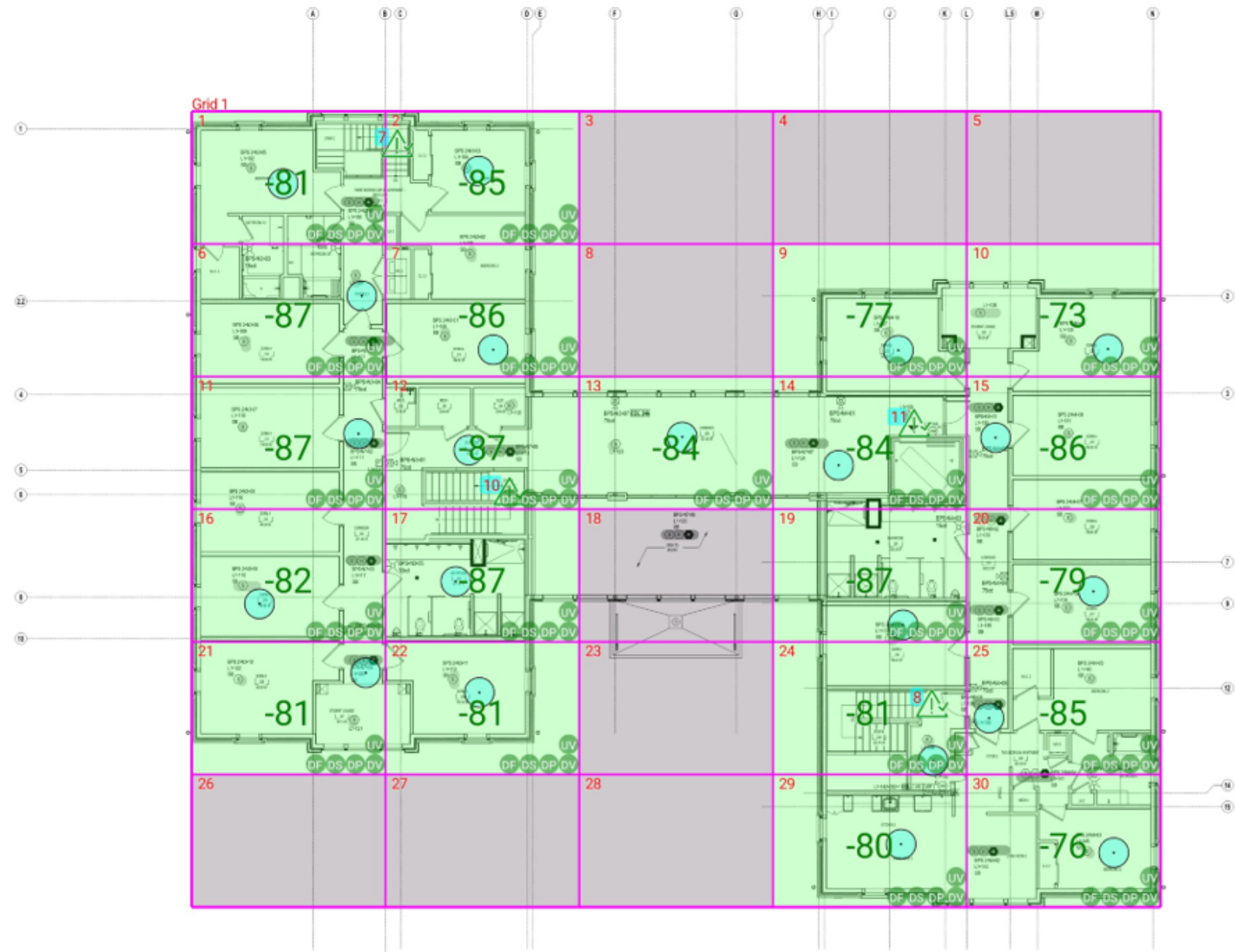


Critical Point	DL Power (dBm)	DL DAQ	UL DAQ	Result
3	-95.44	3.0	3.0	Fail
4	-94.87	3.0	3.0	Pass
5	-94.28	3.0	3.0	Pass
6	-96.33	3.0	3.0	Fail
7	-90.57	3.0	3.0	Pass
8	-97.67	3.0	3.0	Fail
9	-97.34	3.0	3.0	Fail
10	-103.36	2.0	2.0	Fail

Grid	Area	DL Power (dBm)	DL DAQ	UL DAQ	Result
1	1	-90.23	3.0	3.0	Pass
1	2	-95.07	3.0	3.0	Fail
1	3	NT	NT	NT	NT
1	4	NT	NT	NT	NT
1	5	NT	NT	NT	NT
1	6	-96.31	2.0	2.0	Fail
1	7	-94.24	3.0	3.0	Pass
1	8	NT	NT	NT	NT
1	9	-101.00	3.0	3.0	Fail
1	10	-88.98	3.0	3.0	Pass
1	11	-90.26	3.0	3.0	Pass
1	12	-96.54	2.0	3.0	Fail
1	13	-96.00	2.0	3.0	Fail
1	14	-98.63	3.0	3.0	Fail
1	15	-86.43	3.0	3.0	Pass
1	16	-93.88	3.0	3.0	Pass
1	17	-100.26	1.0	2.0	Fail
1	18	-94.91	3.0	3.0	Pass
1	19	-94.25	3.0	3.0	Pass
1	20	-95.82	3.0	3.0	Fail
1	21	-93.56	3.0	3.0	Pass
1	22	-97.63	2.0	2.0	Fail
1	23	NT	NT	NT	NT
1	24	-95.66	3.0	3.0	Fail
1	25	-85.56	3.0	3.0	Pass
1	26	NT	NT	NT	NT
1	27	NT	NT	NT	NT
1	28	NT	NT	NT	NT
1	29	-94.65	2.0	3.0	Fail
1	30	-92.18	3.0	3.0	Pass

GROUP: SUFFOLK COUNTY POLICE AND FIRE SYSTEM - SIMULCAST
RESULT: PASS

Freq (MHZ)	Tech	Band	Ph.	Type	Mod	NAC	Area Points Passed (%)	Critical Points Passed (%)
	P25	SIMULCAST	1	TC	CQPSK	3C4	21/21 (100%)	4/4 (100%)
			-	TC	_____	_____		
			-	TC	_____	_____		
			-	TC	_____	_____		
			1	TC	CQPSK	3C4		
			-	TC	_____	_____		
			1	TC	CQPSK	3C4		
			-	TC	_____	_____		
			-	TC	_____	_____		
			1	TC	CQPSK	3C4		
			-	TC	_____	_____		
			1	TC	CQPSK	3C4		
			-	TC	_____	_____		
			-	TC	_____	_____		
			-	TC	_____	_____		
			-	TC	_____	_____		
			1	TC	CQPSK	3C4		
			1	TC	CQPSK	3C4		
			-	TC	_____	_____		
			-	TC	_____	_____		
			-	TC	_____	_____		
			1	TC	C4FM	3C4		

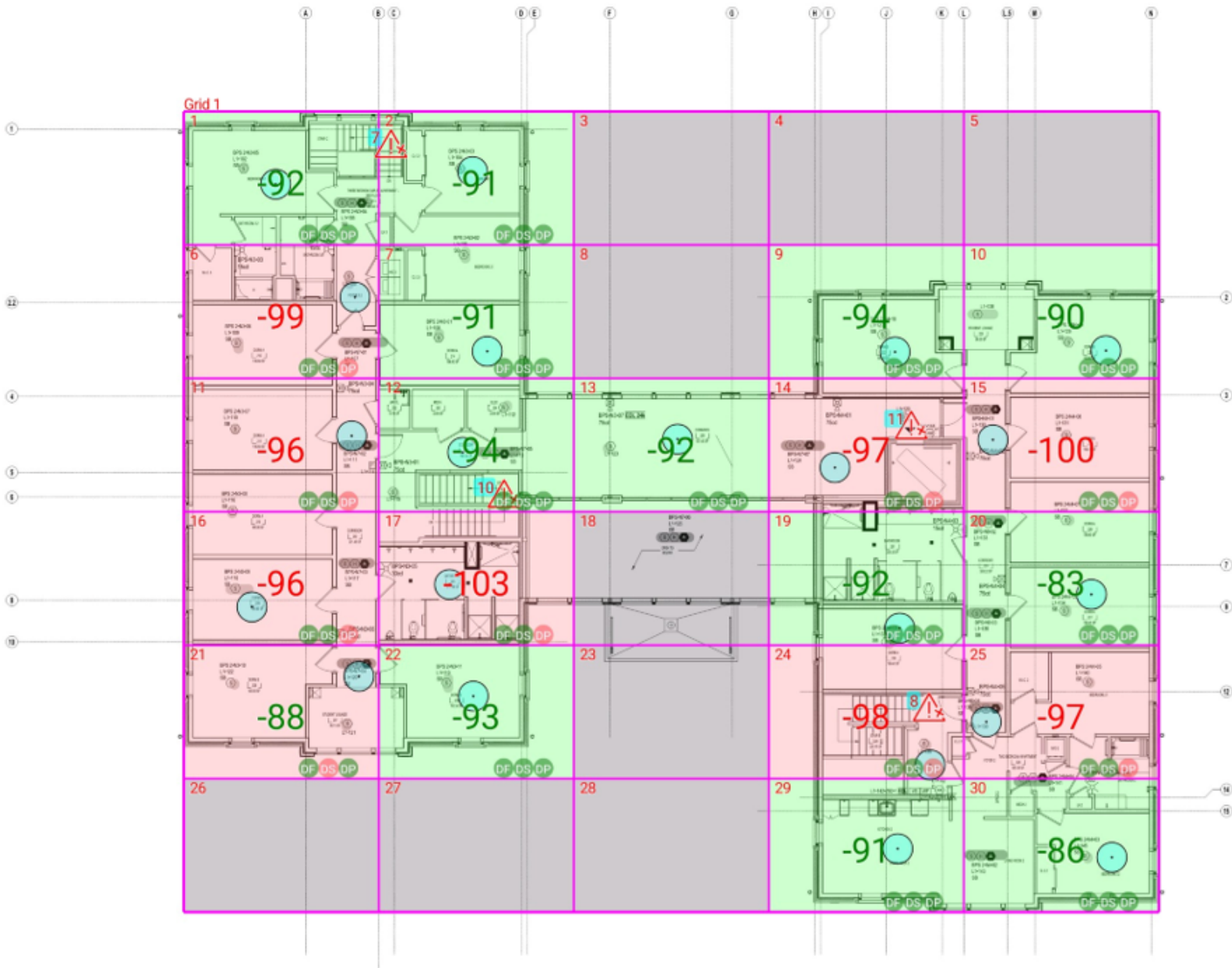


Critical Point	DL Power (dBm)	DL S/N (dB)	DL FBER (%)	DL DAQ	UL DAQ	Result
7	-80.78	34.66	0.00	5.0	5.0	Pass
8	-80.82	33.87	0.00	4.0	4.0	Pass
10	-85.31	34.60	0.00	4.0	4.0	Pass
11	-87.48	34.80	0.00	5.0	5.0	Pass

Grid	Area	DL Power (dBm)	DL S/N (dB)	DL FBER (%)	DL DAQ	UL DAQ	Result
1	1	-80.44	33.05	0.00	5.0	5.0	Pass
1	2	-84.44	33.64	0.00	5.0	5.0	Pass
1	3	NT	NT	NT	NT	NT	NT
1	4	NT	NT	NT	NT	NT	NT
1	5	NT	NT	NT	NT	NT	NT
1	6	-86.23	34.23	0.00	5.0	5.0	Pass
1	7	-85.02	33.32	0.00	4.0	4.0	Pass
1	8	NT	NT	NT	NT	NT	NT
1	9	-76.64	34.49	0.00	4.0	4.0	Pass
1	10	-72.67	35.17	0.00	5.0	5.0	Pass
1	11	-86.71	34.12	0.00	4.0	4.0	Pass
1	12	-86.60	31.12	0.00	4.0	4.0	Pass
1	13	-83.37	31.70	0.00	5.0	5.0	Pass
1	14	-83.13	33.87	0.00	5.0	5.0	Pass
1	15	-85.65	34.91	0.00	4.0	4.0	Pass
1	16	-81.22	35.30	0.00	4.0	4.0	Pass
1	17	-86.90	34.67	0.00	5.0	5.0	Pass
1	18	NT	NT	NT	NT	NT	NT
1	19	-86.07	34.21	0.00	4.0	4.0	Pass
1	20	-78.83	35.00	0.00	5.0	5.0	Pass
1	21	-80.76	29.43	0.00	5.0	5.0	Pass
1	22	-80.20	34.96	0.00	4.0	4.0	Pass
1	23	NT	NT	NT	NT	NT	NT
1	24	-80.32	32.22	0.00	4.0	4.0	Pass
1	25	-84.91	34.20	0.00	4.0	4.0	Pass
1	26	NT	NT	NT	NT	NT	NT
1	27	NT	NT	NT	NT	NT	NT
1	28	NT	NT	NT	NT	NT	NT
1	29	-79.06	34.01	0.00	5.0	5.0	Pass
1	30	-75.48	35.39	0.00	4.0	4.0	Pass

GROUP: SUFFOLK COUNTY POLICE AND FIRE SYSTEM - 700 MHz WEST - CHANNEL: 1
RESULT: **FAIL**

Freq (MHZ)	Tech	Band	Ph.	Type	Mod	NAC	Area Points Passed (%)	Critical Points Passed (%)
	P25	700 MHz WEST CC	1	CC	CQPSK	3C3	12/21 (57%)	0/4 (0%)
			-	CC				
			-	CC				
			-	CC				

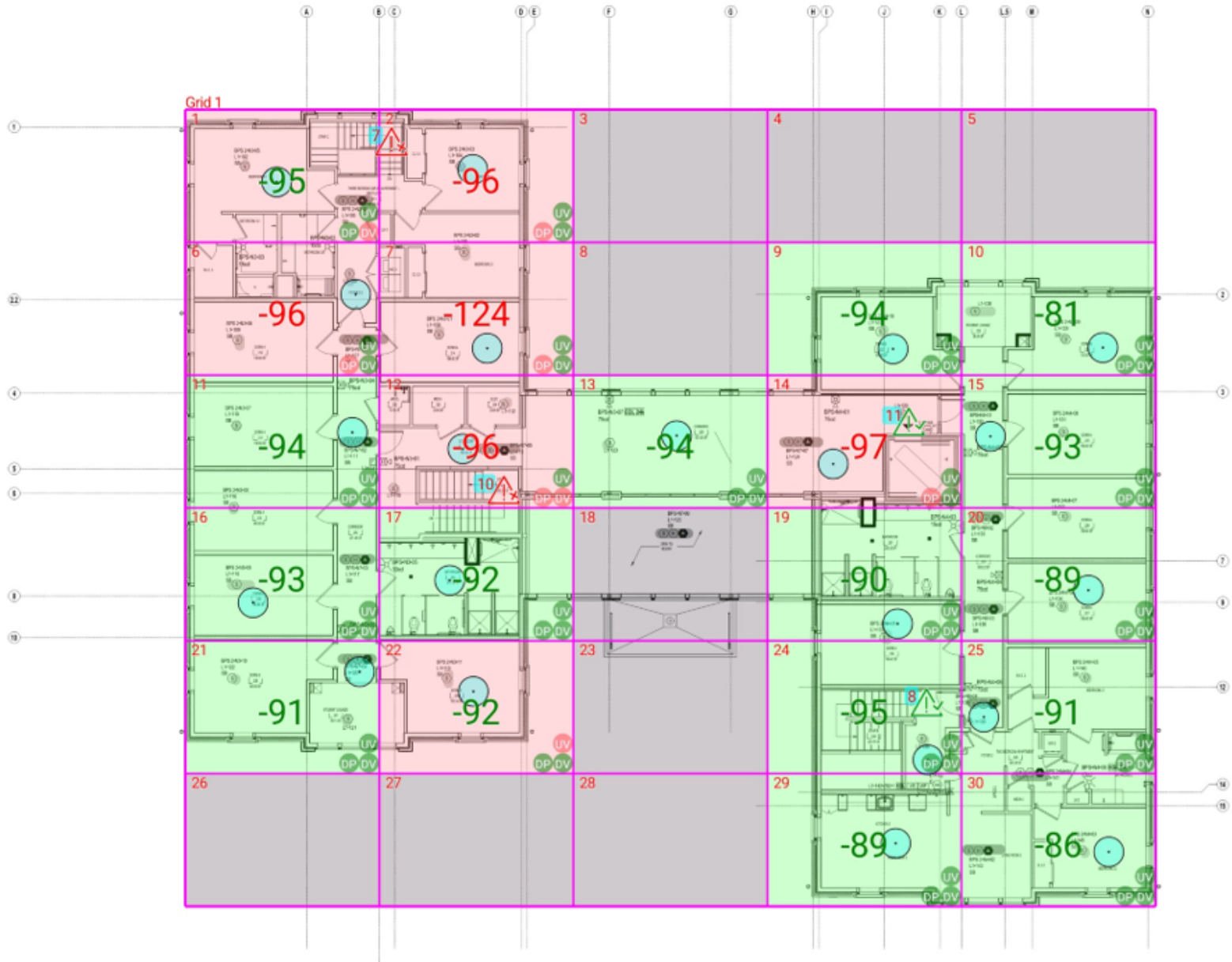


Critical Point	DL Power (dBm)	DL S/N (dB)	DL FBER (%)	Result
7	-96.75	26.81	0.00	Fail
8	-99.28	25.43	0.00	Fail
10	-99.88	26.46	0.00	Fail
11	-96.51	21.27	0.00	Fail

Grid	Area	DL Power (dBm)	DL S/N (dB)	DL FBER (%)	Result
1	1	-91.47	30.05	0.00	Pass
1	2	-90.72	31.87	0.00	Pass
1	3	NT	NT	NT	NT
1	4	NT	NT	NT	NT
1	5	NT	NT	NT	NT
1	6	-98.76	26.73	0.00	Fail
1	7	-90.40	27.52	0.00	Pass
1	8	NT	NT	NT	NT
1	9	-93.78	28.44	0.00	Pass
1	10	-89.01	31.67	0.00	Pass
1	11	-95.97	21.75	0.00	Fail
1	12	-93.71	27.21	0.00	Pass
1	13	-91.95	25.52	0.00	Pass
1	14	-96.47	27.62	0.00	Fail
1	15	-99.46	24.58	0.00	Fail
1	16	-95.99	30.27	0.00	Fail
1	17	-102.83	21.32	0.00	Fail
1	18	NT	NT	NT	NT
1	19	-91.90	26.92	0.00	Pass
1	20	-82.65	31.47	0.00	Pass
1	21	-87.16	11.83	0.00	Fail
1	22	-92.88	28.47	0.00	Pass
1	23	NT	NT	NT	NT
1	24	-97.73	25.43	0.00	Fail
1	25	-96.20	31.94	0.00	Fail
1	26	NT	NT	NT	NT
1	27	NT	NT	NT	NT
1	28	NT	NT	NT	NT
1	29	-90.95	29.77	0.00	Pass
1	30	-85.17	33.24	0.00	Pass

GROUP: STONY BROOK FIRE DEPARTMENT - DISPATCH (REPEATED)
RESULT: **FAIL**

Freq (MHZ)	Tech	Band	Ph.	Type	Mod	NAC	Area Points Passed (%)	Critical Points Passed (%)
	CUSTOM POWER CHANNEL	SBFD - DISPATCH					14/21 (66%)	2/4 (50%)



Critical Point	DL Power (dBm)	DL DAQ	UL DAQ	Result
7	-96.33	3.0	3.0	Fail
8	-90.31	3.0	3.0	Pass
10	-100.04	3.0	3.0	Fail
11	-94.99	3.0	3.0	Pass

Grid	Area	DL Power (dBm)	DL DAQ	UL DAQ	Result
1	1	-94.92	2.0	3.0	Fail
1	2	-95.99	3.0	3.0	Fail
1	3	NT	NT	NT	NT
1	4	NT	NT	NT	NT
1	5	NT	NT	NT	NT
1	6	-95.13	3.0	3.0	Fail
1	7	-123.13	3.0	3.0	Fail
1	8	NT	NT	NT	NT
1	9	-93.72	3.0	3.0	Pass
1	10	-80.37	3.0	3.0	Pass
1	11	-93.39	3.0	3.0	Pass
1	12	-95.92	2.0	3.0	Fail
1	13	-93.36	3.0	3.0	Pass
1	14	-96.56	3.0	3.0	Fail
1	15	-92.50	3.0	3.0	Pass
1	16	-92.38	3.0	3.0	Pass
1	17	-91.07	3.0	3.0	Pass
1	18	NT	NT	NT	NT
1	19	-90.00	3.0	3.0	Pass
1	20	-88.24	3.0	3.0	Pass
1	21	-90.83	3.0	3.0	Pass
1	22	-91.77	3.0	2.0	Fail
1	23	NT	NT	NT	NT
1	24	-94.84	3.0	3.0	Pass
1	25	-90.93	3.0	3.0	Pass
1	26	NT	NT	NT	NT
1	27	NT	NT	NT	NT
1	28	NT	NT	NT	NT
1	29	-88.42	3.0	3.0	Pass
1	30	-85.26	3.0	3.0	Pass

REFERENCES

1. 2020 FIRE CODE OF NEW YORK STATE – SECTION 510 – EMERGENCY RESPONDER RADIO COVERAGE

510.1 Emergency responder radio coverage in new buildings. New buildings shall have approved radio coverage for emergency responders within the building based on the existing coverage levels of the public safety communication systems utilized by the jurisdiction, measured at the exterior of the building. This section shall not require the improvement of the existing public safety communication systems

510.4.1 Emergency responder communication enhancement system signal strength. The building shall be considered to have acceptable emergency responder communications enhancement system coverage when signal strength measurements in 95 percent of all areas on each floor of the building meet the signal requirements in sections 510.4.1.1 through 510.4.1.3

510.4.1.1 Minimum signal strength into the building. The minimum inbound signal strength shall be sufficient to provide usable voice communications throughout the coverage area as specified by the fire code official. The inbound signal level shall be sufficient to provide not less than a Delivered Audio Quality (DAQ) of 3.0 or an equivalent Signal-to-Interference-Plus-Noise Ratio (SINR) applicable to the technology for either analog or digital signals.

510.4.1.2 Minimum signal strength out of the building. The minimum outbound signal strength shall be sufficient to provide usable voice communications throughout the coverage area as specified by the fire code official. The inbound signal level shall be sufficient to provide not less than a Delivered Audio Quality (DAQ) of 3.0 or an equivalent Signal-to-Interference-Plus-Noise Ratio (SINR) applicable to the technology for either analog or digital signals.

510.4.2.6 Additional frequencies and change of frequencies. The emergency responder radio coverage system shall be capable of modification or expansion in the event frequency changes are required by the FCC or other radio licensing authority, or additional frequencies are made available by the FCC of other radio licensing authority.

2. SUFFOLK COUNTY TRUNKED RADIO SYSTEM 700/800 MHz ERCES RETRANSMISSION APPLICATION INSTRUCTIONS

3. DELIVERED AUDIO QUALITY METRICS (DAQ):

- DAQ 1** Unusable. Speech present but not understandable.
- DAQ 2** Speech understandable with considerable effort. Requires occasional repetition due to noise/distortion.
- DAQ 3** Speech understandable with slight effort. Requires occasional repetition due to noise/distortion.
- DAQ 3.4** Speech understandable without repetition. Some noise/distortion present
- DAQ 4** Speech easily understood. Occasional noise/distortion present.
- DAQ 5** Speech easily understood.

4. DAQ/SINR/BER % - EQUIVALENCE TABLE (SOURCE: TIA TSB-88. 1E Annex A Table A1 11/2018)

RADIO	DAQ 3.0	DAQ 3.0
	BER %	SINR
P25 C4FM	2.6	17.4
P25 CQPSK	2.6	15.7