POWERLINE CONDUCTED EMISSIONS

element
WTD.2022.02.22.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

TEST DESCRIPTION

The EUT will be powered either directly or indirectly from the AC power line. Therefore, conducted emissions measurements were made on the AC input of the EUT, or on the AC input of the device used to power the EUT.

The EUT was transmitting at its maximum data rate. For each mode, the spectrum was scanned from 150 kHz to 30 MHz. The test setup and procedures were in accordance with ANSI C63.10.

In the event that the operating frequency of 13.56 MHz is causing the product to fail the FCC 15.207 limits, the following guidance can be used:

FCC KDB 174176 D01 AC Conducted FAQ v01r01, June 3, 2015 Section Q5:

> For a device with a permanent or detachable antenna operating at or below 30 MHz, the FCC will accept measurements performed with a suitable dummy load in lieu of the antenna under the following conditions:
>
> (1) perform the AC power-line conducted tests with the antenna connected to determine compliance with Section 15.207 limits outside the transmitter's fundamental emission band;
>
> (2) retest with a dummy load in lieu of the antenna to determine compliance with Section 15.207 limits within the transmitter's fundamental emission band. For a detachable antenna, remove the antenna and connect a suitable dummy load to the antenna connector. For a permanent antenna, remove the antenna and terminate the RF output with a dummy load or network which simulates the antenna in the fundamental frequency band.
>
> All measurements must be performed as specified in clause 6.2 of ANSI C63.10-2013.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
LISN	Solar Electronics	9252-50-R-24-BNC	LJK	2022-08-08	2023-08-08
Power Source/Analyzer	Hewlett Packard	6841A	THC	NCR	NCR
Receiver	Rohde & Schwarz	ESR7	ARI	2022-08-30	2023-08-30
Cable - Conducted Cable Assembly	Northwest EMC	TXA, HFC, TQU	TXAA	2022-01-24	2023-01-24

MEASUREMENT UNCERTAINTY

Description		
Expanded k=2	3.1 dB	-3.1 dB

CONFIGURATIONS INVESTIGATED

ABBO0181-4

MODES INVESTIGATED

Transmitting 13.56 MHz RFID

POWERLINE CONDUCTED EMISSIONS

element
WTD.2022.02.22.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

EUT:	GLP12411 SAL Alinity i End Section	Work Order:	ABBO0181
Serial Number:	SAL12409000010	Date:	2022-10-20
Customer:	Abbott Laboratories	Temperature:	19.7°C
Attendees:	Frank Sun	Relative Humidity:	33.3%
Customer Project:	None	Bar. Pressure (PMSL):	1018 mb
Tested By:	Jarrod Brenden	Job Site:	TX01
Power:	220VAC/60Hz	Configuration:	ABBO0181-4

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2022	ANSI C63.10:2013

TEST PARAMETERS

Run #:	17	Line:	High Line	Add. Ext. Attenuation (dB):	0

COMMENTS

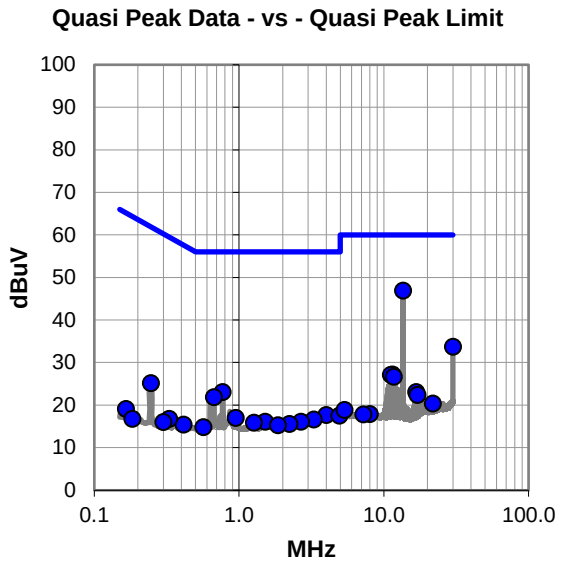
AccessPoint. PCB with single RFID radio. Radio ON.

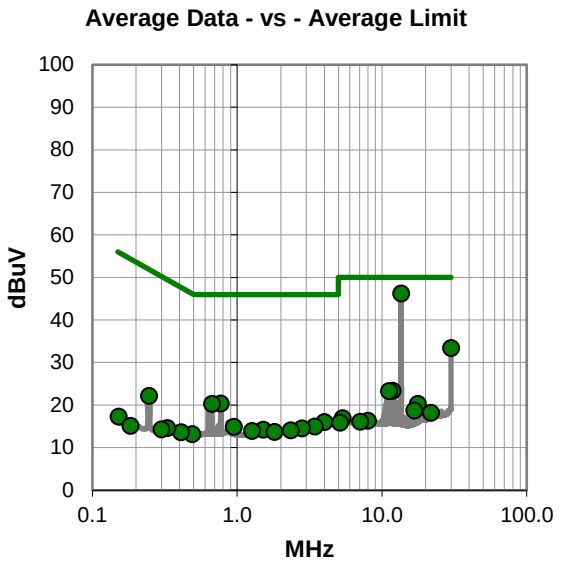
EUT OPERATING MODES

Transmitting 13.56 MHz RFID

DEVIATIONS FROM TEST STANDARD

None





POWERLINE CONDUCTED EMISSIONS

element
WTD.2022.02.22.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

RESULTS - Run #17

Quasi Peak Data - vs - Quasi Peak Limit

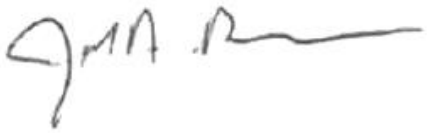
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	26.4	20.5	46.9	60.0	-13.1
30.000	11.9	21.8	33.7	60.0	-26.3
11.452	6.7	20.5	27.2	60.0	-32.8
0.770	2.9	20.2	23.1	56.0	-32.9
11.204	6.6	20.5	27.1	60.0	-32.9
11.699	6.2	20.5	26.7	60.0	-33.3
0.670	1.7	20.2	21.9	56.0	-34.1
0.247	4.6	20.6	25.2	61.9	-36.7
16.740	2.3	20.8	23.1	60.0	-36.9
17.072	1.6	20.8	22.4	60.0	-37.6
4.000	-2.5	20.2	17.7	56.0	-38.3
4.931	-2.6	20.1	17.5	56.0	-38.5
0.950	-3.1	20.1	17.0	56.0	-39.0
3.280	-3.6	20.2	16.6	56.0	-39.4
21.788	-0.7	21.1	20.4	60.0	-39.6
1.516	-4.0	20.1	16.1	56.0	-39.9
2.681	-4.1	20.2	16.1	56.0	-39.9
1.270	-4.1	20.0	15.9	56.0	-40.1
2.236	-4.6	20.2	15.6	56.0	-40.4
1.860	-4.9	20.2	15.3	56.0	-40.7
5.350	-1.2	20.1	18.9	60.0	-41.1
0.566	-5.4	20.2	14.8	56.0	-41.2
8.000	-2.4	20.3	17.9	60.0	-42.1
0.413	-4.9	20.3	15.4	57.6	-42.2
7.208	-2.4	20.2	17.8	60.0	-42.2

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	25.7	20.5	46.2	50.0	-3.8
30.000	11.6	21.8	33.4	50.0	-16.6
0.770	0.2	20.2	20.4	46.0	-25.6
0.670	0.1	20.2	20.3	46.0	-25.7
11.820	2.9	20.5	23.4	50.0	-26.6
11.204	2.8	20.5	23.3	50.0	-26.7
0.247	1.6	20.6	22.2	51.9	-29.7
17.702	-0.5	20.8	20.3	50.0	-29.7
4.000	-4.2	20.2	16.0	46.0	-30.0
3.442	-5.2	20.2	15.0	46.0	-31.0
0.950	-5.2	20.1	14.9	46.0	-31.1
16.740	-2.1	20.8	18.7	50.0	-31.3
2.810	-5.7	20.2	14.5	46.0	-31.5
1.516	-5.9	20.1	14.2	46.0	-31.8
21.788	-2.9	21.1	18.2	50.0	-31.8
2.353	-6.1	20.2	14.1	46.0	-31.9
1.268	-6.1	20.0	13.9	46.0	-32.1
1.810	-6.5	20.2	13.7	46.0	-32.3
0.490	-7.0	20.2	13.2	46.2	-33.0
5.350	-3.2	20.1	16.9	50.0	-33.1
8.000	-4.0	20.3	16.3	50.0	-33.7
7.070	-4.1	20.2	16.1	50.0	-33.9
0.410	-6.7	20.3	13.6	47.6	-34.0
5.138	-4.2	20.1	15.9	50.0	-34.1
0.330	-5.7	20.3	14.6	49.5	-34.9

CONCLUSION

Pass



Tested By

POWERLINE CONDUCTED EMISSIONS

element
WTD.2022.02.22.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

EUT:	GLP12411 SAL Alinity i End Section	Work Order:	ABBO0181
Serial Number:	SAL12409000010	Date:	2022-10-20
Customer:	Abbott Laboratories	Temperature:	19.7°C
Attendees:	Frank Sun	Relative Humidity:	33.3%
Customer Project:	None	Bar. Pressure (PMSL):	1018 mb
Tested By:	Jarrod Brenden	Job Site:	TX01
Power:	220VAC/60Hz	Configuration:	ABBO0181-4

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2022	ANSI C63.10:2013

TEST PARAMETERS

Run #:	18	Line:	Neutral	Add. Ext. Attenuation (dB):	0

COMMENTS

AccessPoint. PCB with single RFID radio. Radio ON.

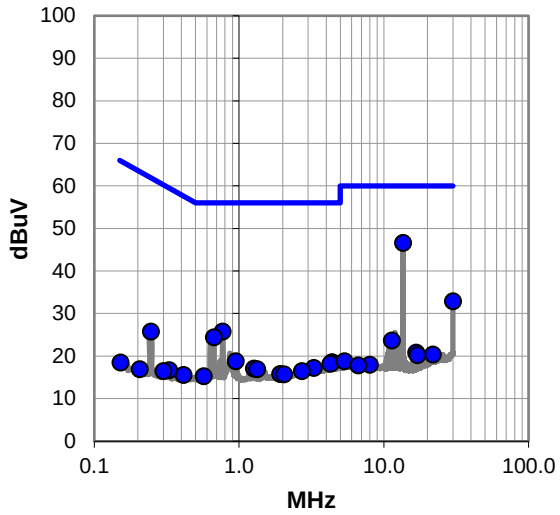
EUT OPERATING MODES

Transmitting 13.56 MHz RFID

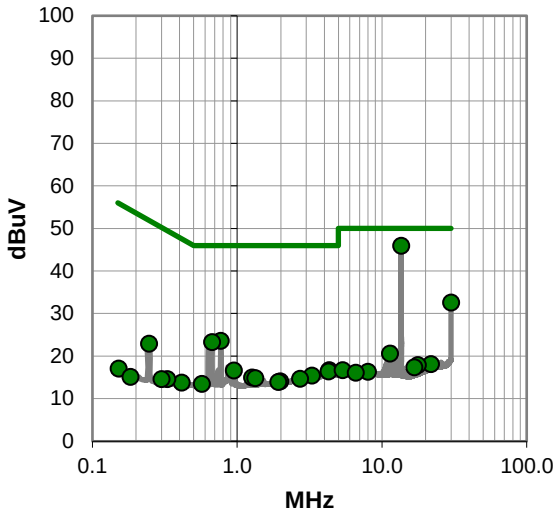
DEVIATIONS FROM TEST STANDARD

None

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



POWERLINE CONDUCTED EMISSIONS

element
WTD.2022.02.22.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

RESULTS - Run #18

Quasi Peak Data - vs - Quasi Peak Limit

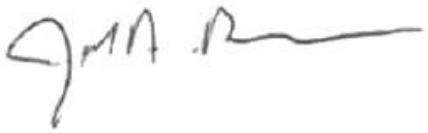
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	26.1	20.5	46.6	60.0	-13.4
30.000	11.1	21.8	32.9	60.0	-27.1
0.770	5.6	20.2	25.8	56.0	-30.2
0.670	4.2	20.2	24.4	56.0	-31.6
0.247	5.2	20.6	25.8	61.9	-36.1
11.380	3.2	20.5	23.7	60.0	-36.3
0.950	-1.3	20.1	18.8	56.0	-37.2
4.390	-1.6	20.2	18.6	56.0	-37.4
4.270	-2.0	20.2	18.2	56.0	-37.8
3.280	-3.0	20.2	17.2	56.0	-38.8
1.270	-2.9	20.0	17.1	56.0	-38.9
1.336	-3.1	20.0	16.9	56.0	-39.1
16.740	0.0	20.8	20.8	60.0	-39.2
2.722	-3.7	20.2	16.5	56.0	-39.5
21.788	-0.7	21.1	20.4	60.0	-39.6
17.072	-0.6	20.8	20.2	60.0	-39.8
1.920	-4.4	20.2	15.8	56.0	-40.2
2.042	-4.5	20.2	15.7	56.0	-40.3
0.570	-4.9	20.2	15.3	56.0	-40.7
5.350	-1.3	20.1	18.8	60.0	-41.2
0.413	-4.7	20.3	15.6	57.6	-42.0
8.000	-2.3	20.3	18.0	60.0	-42.0
6.650	-2.3	20.1	17.8	60.0	-42.2
0.330	-3.6	20.3	16.7	59.5	-42.8
0.300	-3.9	20.4	16.5	60.2	-43.7

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	25.4	20.5	45.9	50.0	-4.1
30.000	10.8	21.8	32.6	50.0	-17.4
0.770	3.4	20.2	23.6	46.0	-22.4
0.670	3.1	20.2	23.3	46.0	-22.7
0.247	2.3	20.6	22.9	51.9	-29.0
4.333	-3.5	20.2	16.7	46.0	-29.3
0.950	-3.5	20.1	16.6	46.0	-29.4
11.384	0.1	20.5	20.6	50.0	-29.4
4.270	-3.8	20.2	16.4	46.0	-29.6
3.280	-4.8	20.2	15.4	46.0	-30.6
1.270	-5.0	20.0	15.0	46.0	-31.0
1.336	-5.2	20.0	14.8	46.0	-31.2
2.722	-5.5	20.2	14.7	46.0	-31.3
1.979	-6.1	20.2	14.1	46.0	-31.9
21.788	-3.0	21.1	18.1	50.0	-31.9
1.920	-6.3	20.2	13.9	46.0	-32.1
17.700	-2.9	20.8	17.9	50.0	-32.1
0.570	-6.7	20.2	13.5	46.0	-32.5
16.740	-3.4	20.8	17.4	50.0	-32.6
5.350	-3.4	20.1	16.7	50.0	-33.3
8.000	-4.0	20.3	16.3	50.0	-33.7
0.413	-6.5	20.3	13.8	47.6	-33.8
6.580	-4.0	20.1	16.1	50.0	-33.9
0.330	-5.7	20.3	14.6	49.5	-34.9
0.300	-5.8	20.4	14.6	50.2	-35.6

CONCLUSION

Pass



Tested By

POWERLINE CONDUCTED EMISSIONS

element
WTD.2022.02.22.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

EUT:	GLP12411 SAL Alinity i End Section	Work Order:	ABBO0181
Serial Number:	SAL12409000010	Date:	2022-10-20
Customer:	Abbott Laboratories	Temperature:	19.7°C
Attendees:	Frank Sun	Relative Humidity:	33.3%
Customer Project:	None	Bar. Pressure (PMSL):	1018 mb
Tested By:	Jarrod Brenden	Job Site:	TX01
Power:	220VAC/60Hz	Configuration:	ABBO0181-4

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2022	ANSI C63.10:2013

TEST PARAMETERS

Run #:	19	Line:	High Line	Add. Ext. Attenuation (dB):	0

COMMENTS

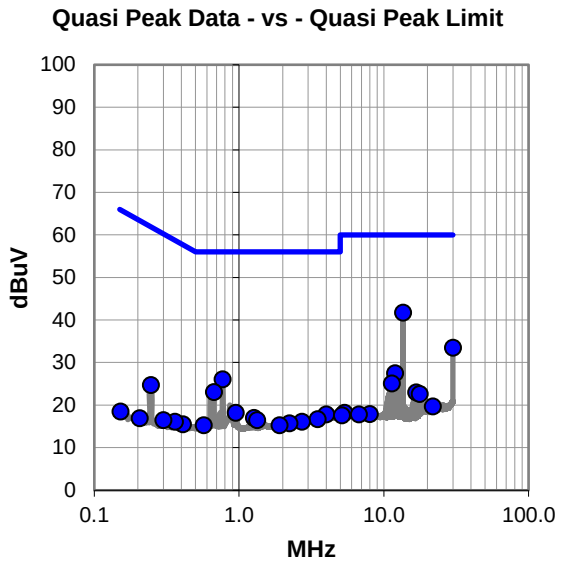
CrossSwitch. PCB with two RFID radios. Radio 1 ON.

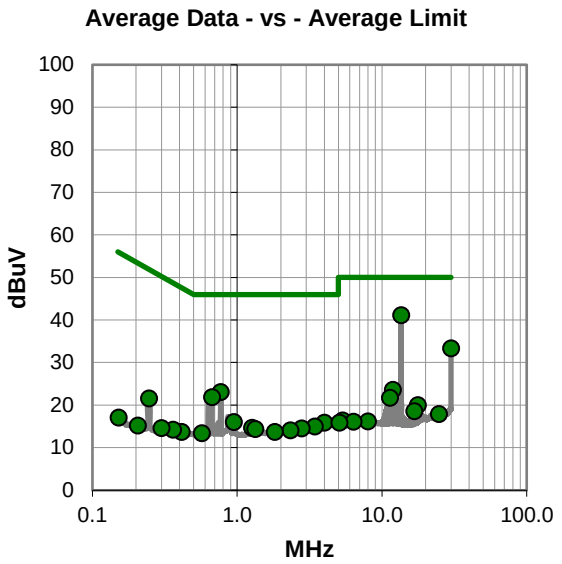
EUT OPERATING MODES

Transmitting 13.56 MHz RFID

DEVIATIONS FROM TEST STANDARD

None





POWERLINE CONDUCTED EMISSIONS

element
WTD.2022.02.22.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

RESULTS - Run #19

Quasi Peak Data - vs - Quasi Peak Limit

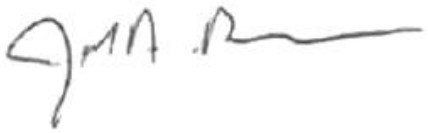
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	21.2	20.5	41.7	60.0	-18.3
30.000	11.7	21.8	33.5	60.0	-26.5
0.770	5.9	20.2	26.1	56.0	-29.9
11.940	7.0	20.5	27.5	60.0	-32.5
0.670	2.9	20.2	23.1	56.0	-32.9
11.380	4.6	20.5	25.1	60.0	-34.9
16.740	2.2	20.8	23.0	60.0	-37.0
0.247	4.1	20.6	24.7	61.9	-37.2
17.700	1.8	20.8	22.6	60.0	-37.4
0.950	-1.9	20.1	18.2	56.0	-37.8
4.000	-2.4	20.2	17.8	56.0	-38.2
1.270	-3.0	20.0	17.0	56.0	-39.0
3.487	-3.5	20.2	16.7	56.0	-39.3
1.336	-3.5	20.0	16.5	56.0	-39.5
2.726	-4.1	20.2	16.1	56.0	-39.9
2.227	-4.5	20.2	15.7	56.0	-40.3
21.788	-1.4	21.1	19.7	60.0	-40.3
0.570	-4.9	20.2	15.3	56.0	-40.7
1.907	-4.9	20.2	15.3	56.0	-40.7
5.350	-1.9	20.1	18.2	60.0	-41.8
0.410	-4.8	20.3	15.5	57.6	-42.1
8.000	-2.4	20.3	17.9	60.0	-42.1
6.730	-2.3	20.1	17.8	60.0	-42.2
5.147	-2.5	20.1	17.6	60.0	-42.4
0.360	-4.2	20.3	16.1	58.7	-42.6

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	20.6	20.5	41.1	50.0	-8.9
30.000	11.5	21.8	33.3	50.0	-16.7
0.770	2.9	20.2	23.1	46.0	-22.9
0.670	1.7	20.2	21.9	46.0	-24.1
11.879	3.1	20.5	23.6	50.0	-26.4
11.380	1.2	20.5	21.7	50.0	-28.3
0.950	-4.1	20.1	16.0	46.0	-30.0
17.700	-0.8	20.8	20.0	50.0	-30.0
4.000	-4.3	20.2	15.9	46.0	-30.1
0.247	1.0	20.6	21.6	51.9	-30.3
3.430	-5.2	20.2	15.0	46.0	-31.0
1.270	-5.3	20.0	14.7	46.0	-31.3
16.740	-2.2	20.8	18.6	50.0	-31.4
2.790	-5.7	20.2	14.5	46.0	-31.5
1.336	-5.6	20.0	14.4	46.0	-31.6
2.330	-6.1	20.2	14.1	46.0	-31.9
24.750	-3.5	21.4	17.9	50.0	-32.1
1.820	-6.5	20.2	13.7	46.0	-32.3
0.570	-6.8	20.2	13.4	46.0	-32.6
5.350	-3.7	20.1	16.4	50.0	-33.6
8.000	-4.1	20.3	16.2	50.0	-33.8
6.376	-4.0	20.1	16.1	50.0	-33.9
0.413	-6.6	20.3	13.7	47.6	-33.9
5.090	-4.2	20.1	15.9	50.0	-34.1
0.360	-6.1	20.3	14.2	48.7	-34.5

CONCLUSION

Pass



Tested By

POWERLINE CONDUCTED EMISSIONS

element
WTD.2022.02.22.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

EUT:	GLP12411 SAL Alinity i End Section	Work Order:	ABBO0181
Serial Number:	SAL12409000010	Date:	2022-10-20
Customer:	Abbott Laboratories	Temperature:	19.7°C
Attendees:	Frank Sun	Relative Humidity:	33.3%
Customer Project:	None	Bar. Pressure (PMSL):	1018 mb
Tested By:	Jarrod Brenden	Job Site:	TX01
Power:	220VAC/60Hz	Configuration:	ABBO0181-4

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2022	ANSI C63.10:2013

TEST PARAMETERS

Run #:	20	Line:	Neutral	Add. Ext. Attenuation (dB):	0

COMMENTS

CrossSwitch. PCB with two RFID radios. Radio 1 ON.

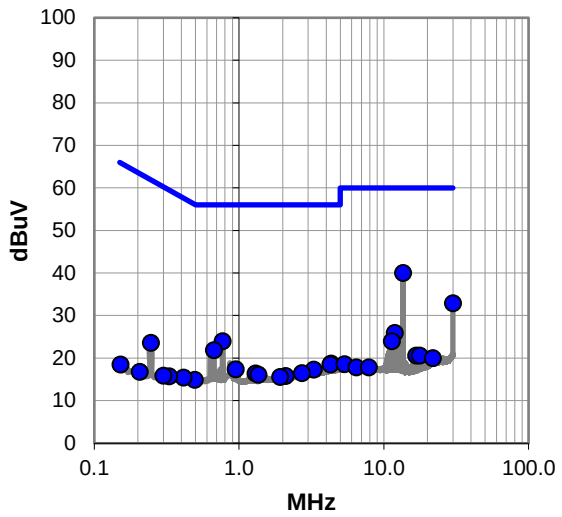
EUT OPERATING MODES

Transmitting 13.56 MHz RFID

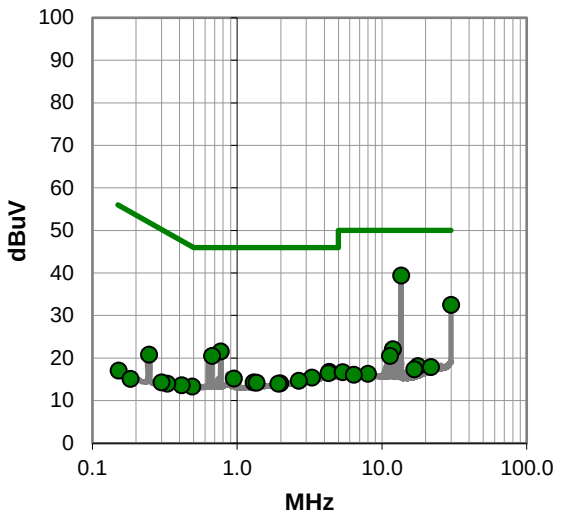
DEVIATIONS FROM TEST STANDARD

None

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



POWERLINE CONDUCTED EMISSIONS

element
WTD.2022.02.22.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

RESULTS - Run #20

Quasi Peak Data - vs - Quasi Peak Limit

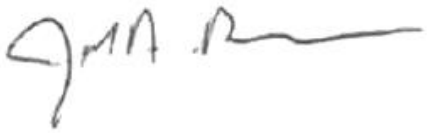
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	19.5	20.5	40.0	60.0	-20.0
30.000	11.1	21.8	32.9	60.0	-27.1
0.770	3.8	20.2	24.0	56.0	-32.0
11.880	5.4	20.5	25.9	60.0	-34.1
0.670	1.7	20.2	21.9	56.0	-34.1
11.380	3.5	20.5	24.0	60.0	-36.0
4.333	-1.5	20.2	18.7	56.0	-37.3
4.270	-1.7	20.2	18.5	56.0	-37.5
0.247	3.0	20.6	23.6	61.9	-38.3
0.950	-2.7	20.1	17.4	56.0	-38.6
3.280	-2.9	20.2	17.3	56.0	-38.7
16.740	-0.2	20.8	20.6	60.0	-39.4
17.700	-0.2	20.8	20.6	60.0	-39.4
2.722	-3.7	20.2	16.5	56.0	-39.5
1.300	-3.6	20.0	16.4	56.0	-39.6
1.360	-3.9	20.0	16.1	56.0	-39.9
21.790	-1.1	21.1	20.0	60.0	-40.0
2.100	-4.4	20.2	15.8	56.0	-40.2
1.920	-4.6	20.2	15.6	56.0	-40.4
0.494	-5.3	20.2	14.9	56.1	-41.2
5.350	-1.5	20.1	18.6	60.0	-41.4
0.413	-4.9	20.3	15.4	57.6	-42.2
6.450	-2.3	20.1	17.8	60.0	-42.2
7.861	-2.5	20.3	17.8	60.0	-42.2
0.330	-4.6	20.3	15.7	59.5	-43.8

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	18.9	20.5	39.4	50.0	-10.6
30.000	10.7	21.8	32.5	50.0	-17.5
0.770	1.4	20.2	21.6	46.0	-24.4
0.670	0.3	20.2	20.5	46.0	-25.5
11.880	1.6	20.5	22.1	50.0	-27.9
4.330	-3.4	20.2	16.8	46.0	-29.2
4.270	-3.7	20.2	16.5	46.0	-29.5
11.380	0.0	20.5	20.5	50.0	-29.5
3.280	-4.8	20.2	15.4	46.0	-30.6
0.950	-4.9	20.1	15.2	46.0	-30.8
0.247	0.2	20.6	20.8	51.9	-31.1
2.660	-5.5	20.2	14.7	46.0	-31.3
1.300	-5.7	20.0	14.3	46.0	-31.7
1.360	-5.8	20.0	14.2	46.0	-31.8
1.979	-6.1	20.2	14.1	46.0	-31.9
17.700	-2.7	20.8	18.1	50.0	-31.9
1.920	-6.2	20.2	14.0	46.0	-32.0
21.790	-3.2	21.1	17.9	50.0	-32.1
16.740	-3.4	20.8	17.4	50.0	-32.6
0.490	-6.9	20.2	13.3	46.2	-32.9
5.350	-3.4	20.1	16.7	50.0	-33.3
8.000	-4.0	20.3	16.3	50.0	-33.7
6.400	-4.0	20.1	16.1	50.0	-33.9
0.413	-6.7	20.3	13.6	47.6	-34.0
0.330	-6.3	20.3	14.0	49.5	-35.5

CONCLUSION

Pass



Tested By

POWERLINE CONDUCTED EMISSIONS

element
WTD.2022.02.22.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

EUT:	GLP12411 SAL Alinity i End Section	Work Order:	ABBO0181
Serial Number:	SAL12409000010	Date:	2022-10-20
Customer:	Abbott Laboratories	Temperature:	19.7°C
Attendees:	Frank Sun	Relative Humidity:	33.3%
Customer Project:	None	Bar. Pressure (PMSL):	1018 mb
Tested By:	Jarrod Brenden	Job Site:	TX01
Power:	220VAC/60Hz	Configuration:	ABBO0181-4

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2022	ANSI C63.10:2013

TEST PARAMETERS

Run #:	21	Line:	High Line	Add. Ext. Attenuation (dB):	0

COMMENTS

CrossSwitch. PCB with two RFID radios. Radio 2 ON.

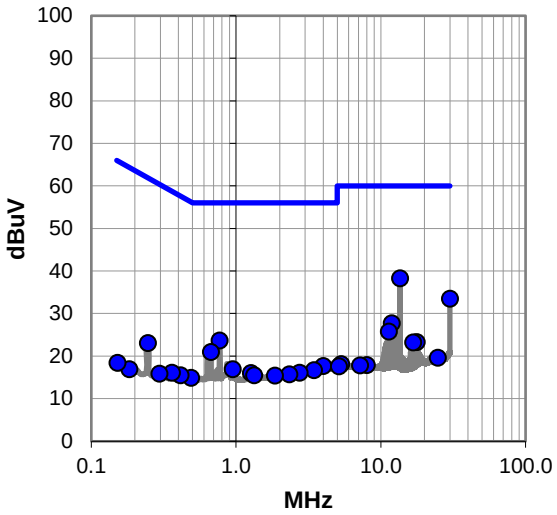
EUT OPERATING MODES

Transmitting 13.56 MHz RFID

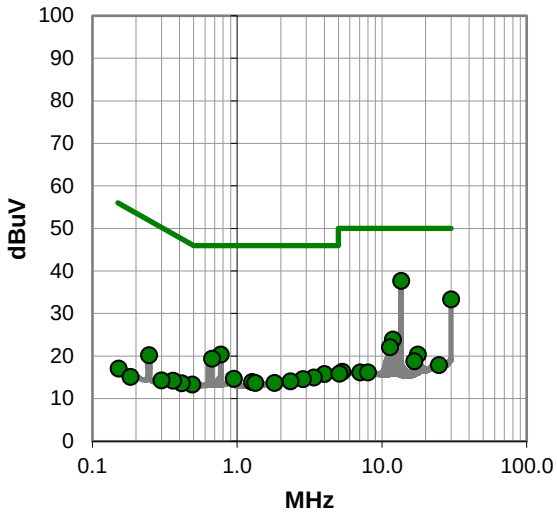
DEVIATIONS FROM TEST STANDARD

None

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



POWERLINE CONDUCTED EMISSIONS

element
WTD.2022.02.22.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

RESULTS - Run #21

Quasi Peak Data - vs - Quasi Peak Limit

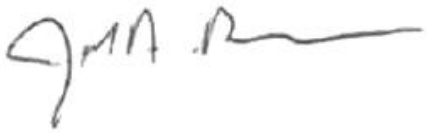
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	17.8	20.5	38.3	60.0	-21.7
30.000	11.7	21.8	33.5	60.0	-26.5
0.770	3.5	20.2	23.7	56.0	-32.3
11.880	7.2	20.5	27.7	60.0	-32.3
11.380	5.3	20.5	25.8	60.0	-34.2
0.670	0.8	20.2	21.0	56.0	-35.0
17.700	2.5	20.8	23.3	60.0	-36.7
16.740	2.4	20.8	23.2	60.0	-36.8
4.000	-2.5	20.2	17.7	56.0	-38.3
0.247	2.5	20.6	23.1	61.9	-38.8
0.950	-3.2	20.1	16.9	56.0	-39.1
3.450	-3.5	20.2	16.7	56.0	-39.3
2.750	-4.1	20.2	16.1	56.0	-39.9
1.270	-4.0	20.0	16.0	56.0	-40.0
2.339	-4.5	20.2	15.7	56.0	-40.3
24.750	-1.8	21.4	19.6	60.0	-40.4
1.336	-4.5	20.0	15.5	56.0	-40.5
1.858	-4.8	20.2	15.4	56.0	-40.6
0.490	-5.3	20.2	14.9	56.2	-41.3
5.330	-2.0	20.1	18.1	60.0	-41.9
0.413	-4.8	20.3	15.5	57.6	-42.1
8.000	-2.4	20.3	17.9	60.0	-42.1
7.172	-2.4	20.2	17.8	60.0	-42.2
5.130	-2.5	20.1	17.6	60.0	-42.4
0.360	-4.2	20.3	16.1	58.7	-42.6

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	17.2	20.5	37.7	50.0	-12.3
30.000	11.5	21.8	33.3	50.0	-16.7
0.770	0.2	20.2	20.4	46.0	-25.6
11.880	3.4	20.5	23.9	50.0	-26.1
0.670	-0.8	20.2	19.4	46.0	-26.6
11.380	1.6	20.5	22.1	50.0	-27.9
17.700	-0.4	20.8	20.4	50.0	-29.6
4.000	-4.4	20.2	15.8	46.0	-30.2
3.379	-5.2	20.2	15.0	46.0	-31.0
16.740	-2.0	20.8	18.8	50.0	-31.2
0.950	-5.4	20.1	14.7	46.0	-31.3
2.850	-5.6	20.2	14.6	46.0	-31.4
0.247	-0.4	20.6	20.2	51.9	-31.7
2.330	-6.1	20.2	14.1	46.0	-31.9
1.270	-6.1	20.0	13.9	46.0	-32.1
24.749	-3.5	21.4	17.9	50.0	-32.1
1.336	-6.3	20.0	13.7	46.0	-32.3
1.810	-6.5	20.2	13.7	46.0	-32.3
0.490	-6.9	20.2	13.3	46.2	-32.9
5.330	-3.8	20.1	16.3	50.0	-33.7
7.073	-4.0	20.2	16.2	50.0	-33.8
8.000	-4.1	20.3	16.2	50.0	-33.8
0.413	-6.7	20.3	13.6	47.6	-34.0
5.098	-4.2	20.1	15.9	50.0	-34.1
0.360	-6.1	20.3	14.2	48.7	-34.5

CONCLUSION

Pass



Tested By

POWERLINE CONDUCTED EMISSIONS

element
WTD.2022.02.22.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

EUT:	GLP12411 SAL Alinity i End Section	Work Order:	ABBO0181
Serial Number:	SAL12409000010	Date:	2022-10-20
Customer:	Abbott Laboratories	Temperature:	19.7°C
Attendees:	Frank Sun	Relative Humidity:	33.3%
Customer Project:	None	Bar. Pressure (PMSL):	1018 mb
Tested By:	Jarrod Brenden	Job Site:	TX01
Power:	220VAC/60Hz	Configuration:	ABBO0181-4

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2022	ANSI C63.10:2013

TEST PARAMETERS

Run #:	22	Line:	Neutral	Add. Ext. Attenuation (dB):	0

COMMENTS

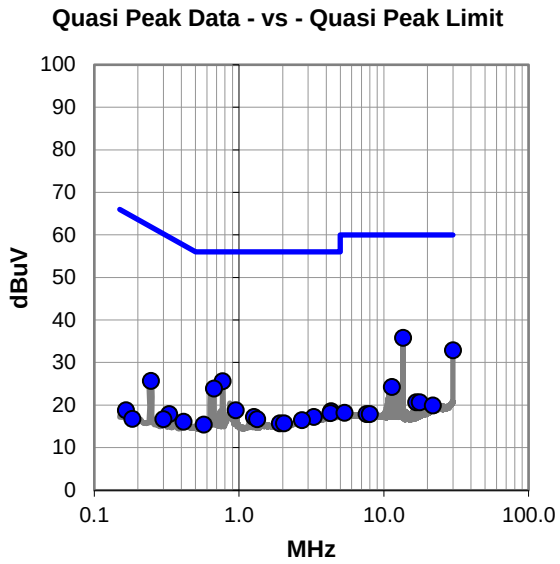
CrossSwitch. PCB with two RFID radios. Radio 2 ON.

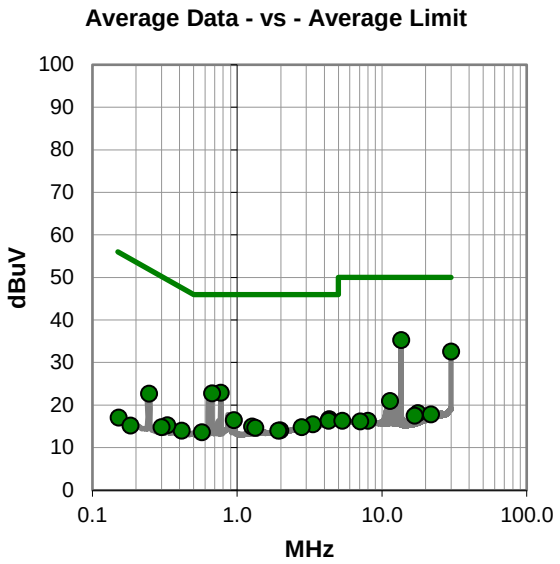
EUT OPERATING MODES

Transmitting 13.56 MHz RFID

DEVIATIONS FROM TEST STANDARD

None





POWERLINE CONDUCTED EMISSIONS

element
WTD.2022.02.22.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

RESULTS - Run #22

Quasi Peak Data - vs - Quasi Peak Limit

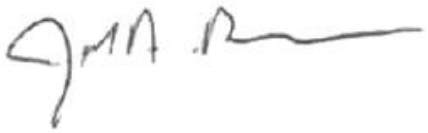
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	15.3	20.5	35.8	60.0	-24.2
30.000	11.1	21.8	32.9	60.0	-27.1
0.770	5.4	20.2	25.6	56.0	-30.4
0.670	3.7	20.2	23.9	56.0	-32.1
11.380	3.8	20.5	24.3	60.0	-35.7
0.247	5.1	20.6	25.7	61.9	-36.2
0.950	-1.3	20.1	18.8	56.0	-37.2
4.330	-1.6	20.2	18.6	56.0	-37.4
4.270	-2.1	20.2	18.1	56.0	-37.9
1.270	-2.8	20.0	17.2	56.0	-38.8
3.280	-3.0	20.2	17.2	56.0	-38.8
1.336	-3.3	20.0	16.7	56.0	-39.3
16.740	-0.1	20.8	20.7	60.0	-39.3
17.700	-0.1	20.8	20.7	60.0	-39.3
2.722	-3.7	20.2	16.5	56.0	-39.5
21.788	-1.2	21.1	19.9	60.0	-40.1
1.916	-4.5	20.2	15.7	56.0	-40.3
2.042	-4.5	20.2	15.7	56.0	-40.3
0.570	-4.8	20.2	15.4	56.0	-40.6
0.413	-4.2	20.3	16.1	57.6	-41.5
0.330	-2.4	20.3	17.9	59.5	-41.6
5.350	-1.9	20.1	18.2	60.0	-41.8
7.604	-2.3	20.2	17.9	60.0	-42.1
8.000	-2.4	20.3	17.9	60.0	-42.1
0.300	-3.7	20.4	16.7	60.2	-43.5

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	14.8	20.5	35.3	50.0	-14.7
30.000	10.8	21.8	32.6	50.0	-17.4
0.770	2.7	20.2	22.9	46.0	-23.1
0.670	2.6	20.2	22.8	46.0	-23.2
11.380	0.5	20.5	21.0	50.0	-29.0
0.247	2.1	20.6	22.7	51.9	-29.2
4.330	-3.5	20.2	16.7	46.0	-29.3
0.950	-3.6	20.1	16.5	46.0	-29.5
4.270	-3.9	20.2	16.3	46.0	-29.7
3.340	-4.7	20.2	15.5	46.0	-30.5
1.270	-5.0	20.0	15.0	46.0	-31.0
2.785	-5.4	20.2	14.8	46.0	-31.2
1.336	-5.3	20.0	14.7	46.0	-31.3
1.979	-6.1	20.2	14.1	46.0	-31.9
17.700	-2.7	20.8	18.1	50.0	-31.9
1.920	-6.2	20.2	14.0	46.0	-32.0
21.788	-3.3	21.1	17.8	50.0	-32.2
0.570	-6.6	20.2	13.6	46.0	-32.4
16.825	-3.3	20.8	17.5	50.0	-32.5
0.413	-6.3	20.3	14.0	47.6	-33.6
5.327	-3.8	20.1	16.3	50.0	-33.7
8.000	-4.0	20.3	16.3	50.0	-33.7
7.069	-4.1	20.2	16.2	50.0	-33.8
0.330	-5.0	20.3	15.3	49.5	-34.2
0.300	-5.6	20.4	14.8	50.2	-35.4

CONCLUSION

Pass



Tested By

POWERLINE CONDUCTED EMISSIONS

element
WTD.2022.02.22.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

EUT:	GLP12411 SAL Alinity i End Section	Work Order:	ABBO0181
Serial Number:	SAL12409000010	Date:	2022-10-20
Customer:	Abbott Laboratories	Temperature:	19.7°C
Attendees:	Frank Sun	Relative Humidity:	33.3%
Customer Project:	None	Bar. Pressure (PMSL):	1018 mb
Tested By:	Jarrod Brenden	Job Site:	TX01
Power:	220VAC/60Hz	Configuration:	ABBO0181-4

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2022	ANSI C63.10:2013

TEST PARAMETERS

Run #:	23	Line:	High Line	Add. Ext. Attenuation (dB):	0

COMMENTS

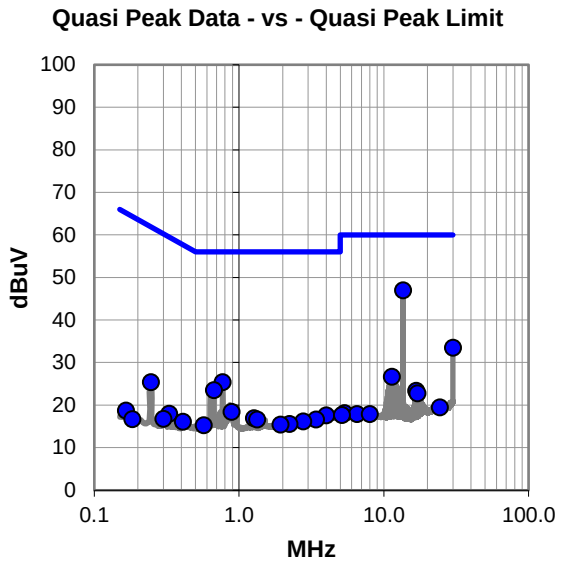
ConvergentSwitch. PCB with two RFID radios. Radio 1 ON.

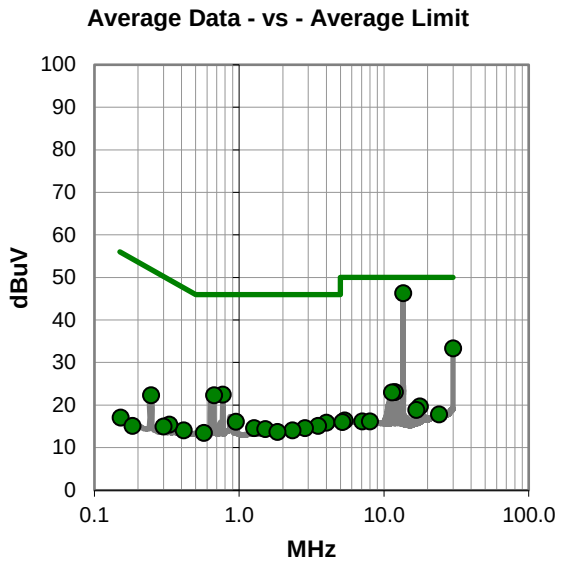
EUT OPERATING MODES

Transmitting 13.56 MHz RFID

DEVIATIONS FROM TEST STANDARD

None





POWERLINE CONDUCTED EMISSIONS

element
WTD.2022.02.22.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

RESULTS - Run #23

Quasi Peak Data - vs - Quasi Peak Limit

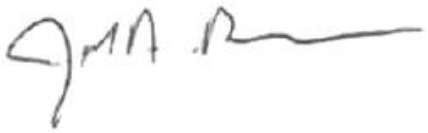
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	26.5	20.5	47.0	60.0	-13.0
30.000	11.7	21.8	33.5	60.0	-26.5
0.770	5.2	20.2	25.4	56.0	-30.6
0.670	3.3	20.2	23.5	56.0	-32.5
11.380	6.2	20.5	26.7	60.0	-33.3
0.247	4.8	20.6	25.4	61.9	-36.5
16.740	2.6	20.8	23.4	60.0	-36.6
17.072	2.0	20.8	22.8	60.0	-37.2
0.890	-1.7	20.1	18.4	56.0	-37.6
4.000	-2.6	20.2	17.6	56.0	-38.4
1.270	-3.1	20.0	16.9	56.0	-39.1
1.336	-3.4	20.0	16.6	56.0	-39.4
3.400	-3.6	20.2	16.6	56.0	-39.4
2.780	-4.0	20.2	16.2	56.0	-39.8
2.230	-4.6	20.2	15.6	56.0	-40.4
24.317	-1.9	21.4	19.5	60.0	-40.5
1.930	-4.8	20.2	15.4	56.0	-40.6
0.570	-4.9	20.2	15.3	56.0	-40.7
0.330	-2.3	20.3	18.0	59.5	-41.5
0.410	-4.2	20.3	16.1	57.6	-41.5
5.350	-2.0	20.1	18.1	60.0	-41.9
6.540	-2.2	20.1	17.9	60.0	-42.1
8.000	-2.4	20.3	17.9	60.0	-42.1
5.129	-2.4	20.1	17.7	60.0	-42.3
0.300	-3.6	20.4	16.8	60.2	-43.4

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	25.8	20.5	46.3	50.0	-3.7
30.000	11.5	21.8	33.3	50.0	-16.7
0.770	2.3	20.2	22.5	46.0	-23.5
0.670	2.1	20.2	22.3	46.0	-23.7
11.880	2.6	20.5	23.1	50.0	-26.9
11.380	2.5	20.5	23.0	50.0	-27.0
0.247	1.7	20.6	22.3	51.9	-29.6
0.950	-4.0	20.1	16.1	46.0	-29.9
4.000	-4.3	20.2	15.9	46.0	-30.1
17.698	-1.1	20.8	19.7	50.0	-30.3
3.500	-5.1	20.2	15.1	46.0	-30.9
16.740	-1.9	20.8	18.9	50.0	-31.1
1.270	-5.4	20.0	14.6	46.0	-31.4
2.850	-5.6	20.2	14.6	46.0	-31.4
1.516	-5.7	20.1	14.4	46.0	-31.6
2.330	-6.1	20.2	14.1	46.0	-31.9
24.000	-3.6	21.4	17.8	50.0	-32.2
1.840	-6.5	20.2	13.7	46.0	-32.3
0.570	-6.7	20.2	13.5	46.0	-32.5
0.413	-6.2	20.3	14.1	47.6	-33.5
5.350	-3.7	20.1	16.4	50.0	-33.6
7.087	-4.0	20.2	16.2	50.0	-33.8
8.000	-4.1	20.3	16.2	50.0	-33.8
5.170	-4.1	20.1	16.0	50.0	-34.0
0.330	-4.9	20.3	15.4	49.5	-34.1

CONCLUSION

Pass



Tested By

POWERLINE CONDUCTED EMISSIONS

element
WTD.2022.02.22.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

EUT:	GLP12411 SAL Alinity i End Section	Work Order:	ABBO0181
Serial Number:	SAL12409000010	Date:	2022-10-20
Customer:	Abbott Laboratories	Temperature:	19.7°C
Attendees:	Frank Sun	Relative Humidity:	33.3%
Customer Project:	None	Bar. Pressure (PMSL):	1018 mb
Tested By:	Jarrod Brenden	Job Site:	TX01
Power:	220VAC/60Hz	Configuration:	ABBO0181-4

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2022	ANSI C63.10:2013

TEST PARAMETERS

Run #:	24	Line:	Neutral	Add. Ext. Attenuation (dB):	0

COMMENTS

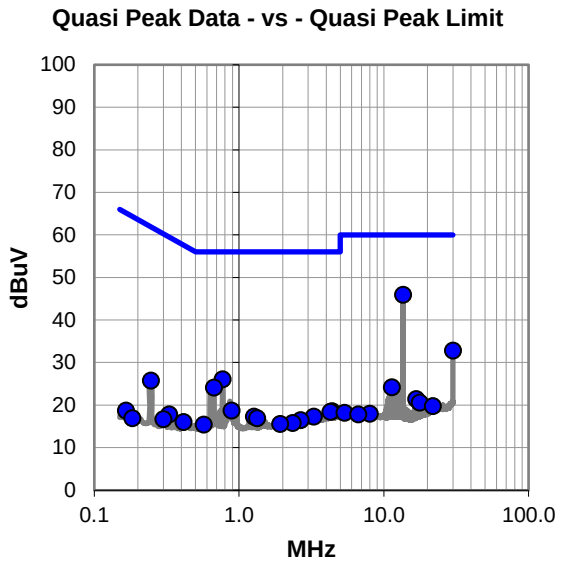
ConvergentSwitch. PCB with two RFID radios. Radio 1 ON.

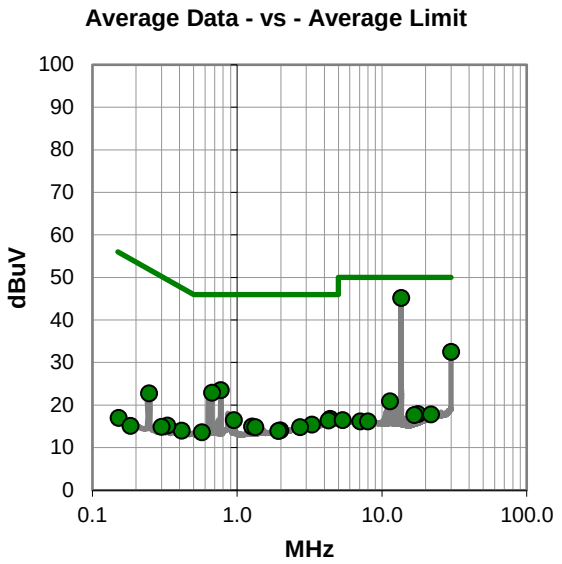
EUT OPERATING MODES

Transmitting 13.56 MHz RFID

DEVIATIONS FROM TEST STANDARD

None





POWERLINE CONDUCTED EMISSIONS

element
WTD.2022.02.22.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

RESULTS - Run #24

Quasi Peak Data - vs - Quasi Peak Limit

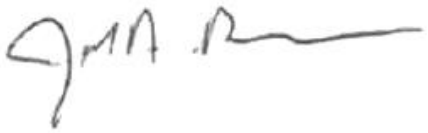
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	25.4	20.5	45.9	60.0	-14.1
30.000	11.0	21.8	32.8	60.0	-27.2
0.770	5.9	20.2	26.1	56.0	-29.9
0.670	3.9	20.2	24.1	56.0	-31.9
11.380	3.7	20.5	24.2	60.0	-35.8
0.247	5.2	20.6	25.8	61.9	-36.1
0.890	-1.4	20.1	18.7	56.0	-37.3
4.390	-1.6	20.2	18.6	56.0	-37.4
4.270	-1.8	20.2	18.4	56.0	-37.6
16.740	0.6	20.8	21.4	60.0	-38.6
1.270	-2.7	20.0	17.3	56.0	-38.7
3.280	-2.9	20.2	17.3	56.0	-38.7
1.336	-3.1	20.0	16.9	56.0	-39.1
17.700	-0.2	20.8	20.6	60.0	-39.4
2.660	-3.7	20.2	16.5	56.0	-39.5
2.353	-4.4	20.2	15.8	56.0	-40.2
21.788	-1.3	21.1	19.8	60.0	-40.2
1.920	-4.6	20.2	15.6	56.0	-40.4
0.570	-4.8	20.2	15.4	56.0	-40.6
0.413	-4.3	20.3	16.0	57.6	-41.6
0.330	-2.5	20.3	17.8	59.5	-41.7
5.350	-1.9	20.1	18.2	60.0	-41.8
8.000	-2.3	20.3	18.0	60.0	-42.0
6.664	-2.3	20.1	17.8	60.0	-42.2
0.300	-3.7	20.4	16.7	60.2	-43.5

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	24.7	20.5	45.2	50.0	-4.8
30.000	10.7	21.8	32.5	50.0	-17.5
0.770	3.3	20.2	23.5	46.0	-22.5
0.670	2.7	20.2	22.9	46.0	-23.1
0.247	2.2	20.6	22.8	51.9	-29.1
11.380	0.4	20.5	20.9	50.0	-29.1
4.390	-3.4	20.2	16.8	46.0	-29.2
0.950	-3.6	20.1	16.5	46.0	-29.5
4.270	-3.8	20.2	16.4	46.0	-29.6
3.280	-4.8	20.2	15.4	46.0	-30.6
1.270	-5.0	20.0	15.0	46.0	-31.0
1.336	-5.2	20.0	14.8	46.0	-31.2
2.722	-5.4	20.2	14.8	46.0	-31.2
1.979	-6.1	20.2	14.1	46.0	-31.9
1.920	-6.3	20.2	13.9	46.0	-32.1
17.700	-2.9	20.8	17.9	50.0	-32.1
21.790	-3.3	21.1	17.8	50.0	-32.2
16.740	-3.1	20.8	17.7	50.0	-32.3
0.570	-6.6	20.2	13.6	46.0	-32.4
5.350	-3.6	20.1	16.5	50.0	-33.5
0.413	-6.3	20.3	14.0	47.6	-33.6
7.070	-4.0	20.2	16.2	50.0	-33.8
8.000	-4.1	20.3	16.2	50.0	-33.8
0.330	-5.1	20.3	15.2	49.5	-34.3
0.300	-5.5	20.4	14.9	50.2	-35.3

CONCLUSION

Pass



Tested By

POWERLINE CONDUCTED EMISSIONS

element
WTD.2022.02.22.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

EUT:	GLP12411 SAL Alinity i End Section	Work Order:	ABBO0181
Serial Number:	SAL12409000010	Date:	2022-10-20
Customer:	Abbott Laboratories	Temperature:	19.7°C
Attendees:	Frank Sun	Relative Humidity:	33.3%
Customer Project:	None	Bar. Pressure (PMSL):	1018 mb
Tested By:	Jarrod Brenden	Job Site:	TX01
Power:	220VAC/60Hz	Configuration:	ABBO0181-4

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2022	ANSI C63.10:2013

TEST PARAMETERS

Run #:	25	Line:	High Line	Add. Ext. Attenuation (dB):	0

COMMENTS

ConvergentSwitch. PCB with two RFID radios. Radio 2 ON.

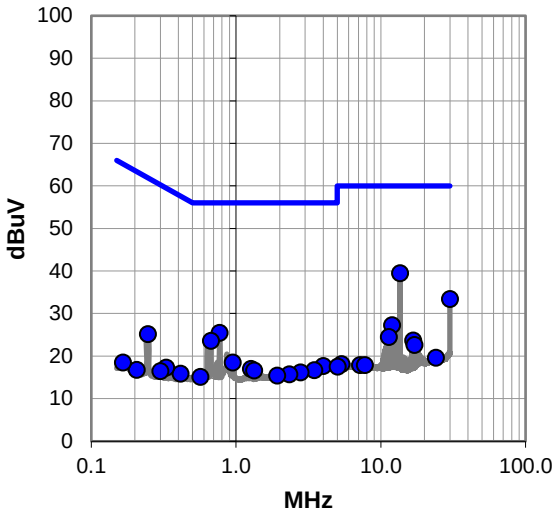
EUT OPERATING MODES

Transmitting 13.56 MHz RFID

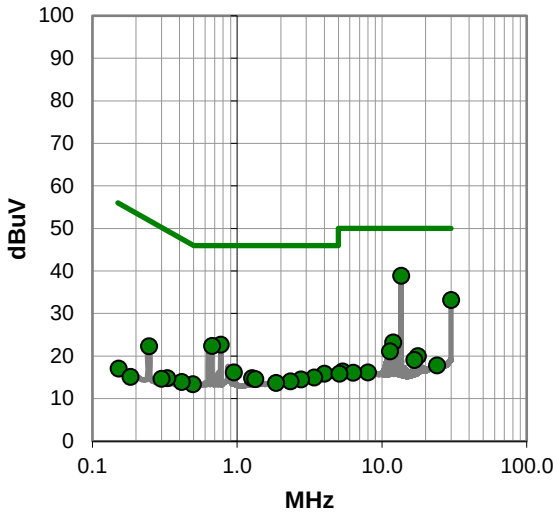
DEVIATIONS FROM TEST STANDARD

None

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



POWERLINE CONDUCTED EMISSIONS

element
WTD.2022.02.22.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

RESULTS - Run #25

Quasi Peak Data - vs - Quasi Peak Limit

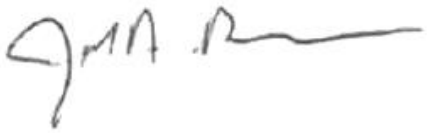
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	19.0	20.5	39.5	60.0	-20.5
30.000	11.6	21.8	33.4	60.0	-26.6
0.770	5.3	20.2	25.5	56.0	-30.5
0.670	3.4	20.2	23.6	56.0	-32.4
11.940	6.8	20.5	27.3	60.0	-32.7
11.380	4.0	20.5	24.5	60.0	-35.5
16.740	2.9	20.8	23.7	60.0	-36.3
0.247	4.6	20.6	25.2	61.9	-36.7
17.072	1.8	20.8	22.6	60.0	-37.4
0.950	-1.6	20.1	18.5	56.0	-37.5
4.000	-2.5	20.2	17.7	56.0	-38.3
1.270	-3.0	20.0	17.0	56.0	-39.0
3.470	-3.5	20.2	16.7	56.0	-39.3
1.336	-3.4	20.0	16.6	56.0	-39.4
2.789	-4.0	20.2	16.2	56.0	-39.8
2.335	-4.5	20.2	15.7	56.0	-40.3
24.000	-1.8	21.4	19.6	60.0	-40.4
1.920	-4.8	20.2	15.4	56.0	-40.6
0.566	-5.1	20.2	15.1	56.0	-40.9
0.413	-4.4	20.3	15.9	57.6	-41.7
5.350	-2.0	20.1	18.1	60.0	-41.9
7.200	-2.3	20.2	17.9	60.0	-42.1
7.750	-2.4	20.3	17.9	60.0	-42.1
0.330	-3.0	20.3	17.3	59.5	-42.2
5.044	-2.6	20.1	17.5	60.0	-42.5

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	18.4	20.5	38.9	50.0	-11.1
30.000	11.4	21.8	33.2	50.0	-16.8
0.770	2.5	20.2	22.7	46.0	-23.3
0.670	2.2	20.2	22.4	46.0	-23.6
11.940	2.7	20.5	23.2	50.0	-26.8
11.380	0.6	20.5	21.1	50.0	-28.9
0.247	1.7	20.6	22.3	51.9	-29.6
0.950	-3.9	20.1	16.2	46.0	-29.8
17.700	-0.8	20.8	20.0	50.0	-30.0
4.000	-4.3	20.2	15.9	46.0	-30.1
16.740	-1.7	20.8	19.1	50.0	-30.9
3.401	-5.2	20.2	15.0	46.0	-31.0
1.270	-5.2	20.0	14.8	46.0	-31.2
1.336	-5.4	20.0	14.6	46.0	-31.4
2.762	-5.7	20.2	14.5	46.0	-31.5
2.330	-6.1	20.2	14.1	46.0	-31.9
24.000	-3.6	21.4	17.8	50.0	-32.2
1.860	-6.5	20.2	13.7	46.0	-32.3
0.494	-6.8	20.2	13.4	46.1	-32.7
5.350	-3.7	20.1	16.4	50.0	-33.6
0.413	-6.4	20.3	13.9	47.6	-33.7
8.000	-4.1	20.3	16.2	50.0	-33.8
6.335	-4.0	20.1	16.1	50.0	-33.9
5.093	-4.2	20.1	15.9	50.0	-34.1
0.330	-5.5	20.3	14.8	49.5	-34.7

CONCLUSION

Pass



Tested By

POWERLINE CONDUCTED EMISSIONS

element
WTD.2022.02.22.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

EUT:	GLP12411 SAL Alinity i End Section	Work Order:	ABBO0181
Serial Number:	SAL12409000010	Date:	2022-10-20
Customer:	Abbott Laboratories	Temperature:	19.7°C
Attendees:	Frank Sun	Relative Humidity:	33.3%
Customer Project:	None	Bar. Pressure (PMSL):	1018 mb
Tested By:	Jarrod Brenden	Job Site:	TX01
Power:	220VAC/60Hz	Configuration:	ABBO0181-4

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2022	ANSI C63.10:2013

TEST PARAMETERS

Run #:	26	Line:	Neutral	Add. Ext. Attenuation (dB):	0

COMMENTS

ConvergentSwitch. PCB with two RFID radios. Radio 2 ON.

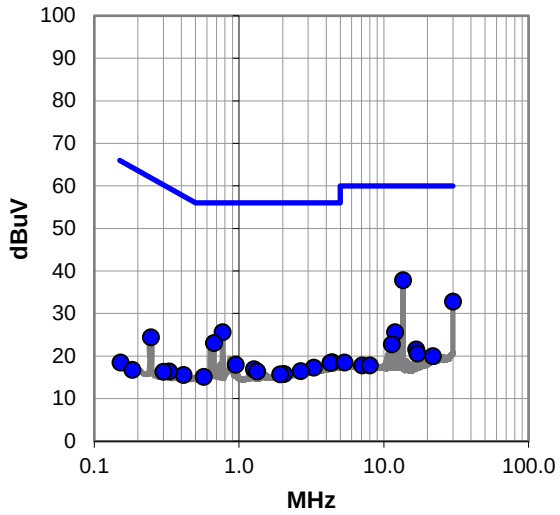
EUT OPERATING MODES

Transmitting 13.56 MHz RFID

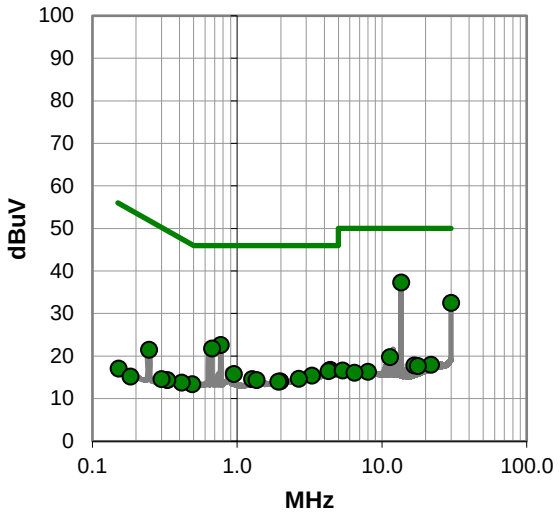
DEVIATIONS FROM TEST STANDARD

None

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



POWERLINE CONDUCTED EMISSIONS

element
WTD.2022.02.22.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

RESULTS - Run #26

Quasi Peak Data - vs - Quasi Peak Limit

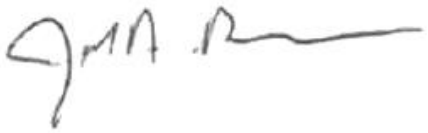
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	17.3	20.5	37.8	60.0	-22.2
30.000	11.0	21.8	32.8	60.0	-27.2
0.770	5.4	20.2	25.6	56.0	-30.4
0.670	2.9	20.2	23.1	56.0	-32.9
11.940	5.1	20.5	25.6	60.0	-34.4
11.380	2.3	20.5	22.8	60.0	-37.2
4.390	-1.6	20.2	18.6	56.0	-37.4
0.247	3.8	20.6	24.4	61.9	-37.5
4.270	-1.8	20.2	18.4	56.0	-37.6
0.950	-2.1	20.1	18.0	56.0	-38.0
16.740	0.8	20.8	21.6	60.0	-38.4
3.280	-2.9	20.2	17.3	56.0	-38.7
1.270	-3.1	20.0	16.9	56.0	-39.1
17.072	-0.2	20.8	20.6	60.0	-39.4
2.660	-3.7	20.2	16.5	56.0	-39.5
1.336	-3.6	20.0	16.4	56.0	-39.6
21.790	-1.1	21.1	20.0	60.0	-40.0
2.042	-4.4	20.2	15.8	56.0	-40.2
1.920	-4.5	20.2	15.7	56.0	-40.3
0.570	-5.1	20.2	15.1	56.0	-40.9
5.350	-1.6	20.1	18.5	60.0	-41.5
0.413	-4.7	20.3	15.6	57.6	-42.0
7.087	-2.4	20.2	17.8	60.0	-42.2
8.000	-2.5	20.3	17.8	60.0	-42.2
0.330	-3.9	20.3	16.4	59.5	-43.1

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	16.8	20.5	37.3	50.0	-12.7
30.000	10.7	21.8	32.5	50.0	-17.5
0.770	2.4	20.2	22.6	46.0	-23.4
0.670	1.6	20.2	21.8	46.0	-24.2
4.390	-3.4	20.2	16.8	46.0	-29.2
4.270	-3.7	20.2	16.5	46.0	-29.5
0.950	-4.3	20.1	15.8	46.0	-30.2
11.384	-0.7	20.5	19.8	50.0	-30.2
0.247	0.9	20.6	21.5	51.9	-30.4
3.280	-4.8	20.2	15.4	46.0	-30.6
2.660	-5.5	20.2	14.7	46.0	-31.3
1.270	-5.4	20.0	14.6	46.0	-31.4
1.360	-5.6	20.0	14.4	46.0	-31.6
1.979	-6.1	20.2	14.1	46.0	-31.9
1.920	-6.2	20.2	14.0	46.0	-32.0
21.788	-3.1	21.1	18.0	50.0	-32.0
16.740	-3.0	20.8	17.8	50.0	-32.2
17.698	-3.1	20.8	17.7	50.0	-32.3
0.490	-6.8	20.2	13.4	46.2	-32.8
5.350	-3.5	20.1	16.6	50.0	-33.4
8.000	-4.0	20.3	16.3	50.0	-33.7
0.413	-6.5	20.3	13.8	47.6	-33.8
6.460	-4.0	20.1	16.1	50.0	-33.9
0.330	-5.9	20.3	14.4	49.5	-35.1
0.300	-5.8	20.4	14.6	50.2	-35.6

CONCLUSION

Pass



Tested By

POWERLINE CONDUCTED EMISSIONS

element
WTD.2022.02.22.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

EUT:	GLP12411 SAL Alinity i End Section	Work Order:	ABBO0181
Serial Number:	SAL12409000010	Date:	2022-10-20
Customer:	Abbott Laboratories	Temperature:	19.7°C
Attendees:	Frank Sun	Relative Humidity:	33.3%
Customer Project:	None	Bar. Pressure (PMSL):	1018 mb
Tested By:	Jarrod Brenden	Job Site:	TX01
Power:	220VAC/60Hz	Configuration:	ABBO0181-4

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2022	ANSI C63.10:2013

TEST PARAMETERS

Run #:	31	Line:	High Line	Add. Ext. Attenuation (dB):	0

COMMENTS

DivergentSwitch. PCB with singe RFID radio. Radio ON.

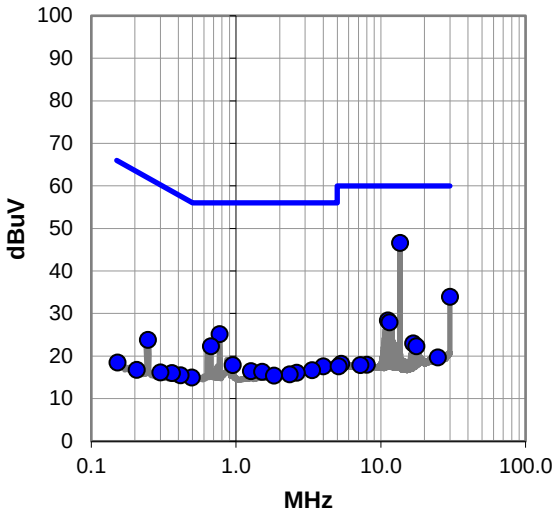
EUT OPERATING MODES

Transmitting 13.56 MHz RFID

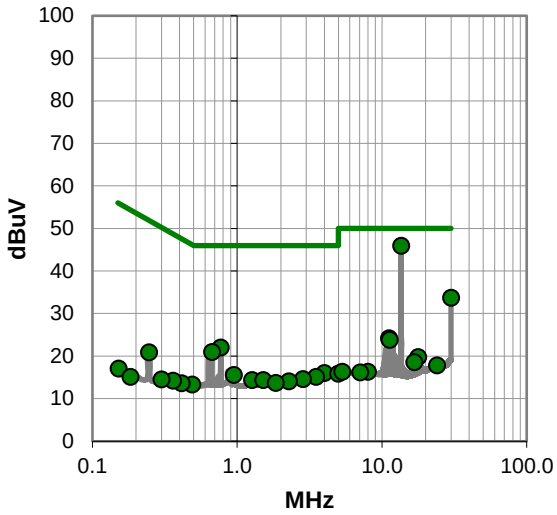
DEVIATIONS FROM TEST STANDARD

None

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



POWERLINE CONDUCTED EMISSIONS

element
WTD.2022.02.22.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

RESULTS - Run #31

Quasi Peak Data - vs - Quasi Peak Limit

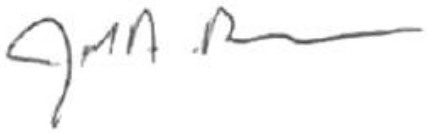
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	26.1	20.5	46.6	60.0	-13.4
30.000	12.1	21.8	33.9	60.0	-26.1
0.770	5.0	20.2	25.2	56.0	-30.8
11.204	7.9	20.5	28.4	60.0	-31.6
11.452	7.4	20.5	27.9	60.0	-32.1
0.670	2.1	20.2	22.3	56.0	-33.7
16.740	2.2	20.8	23.0	60.0	-37.0
17.640	1.5	20.8	22.3	60.0	-37.7
0.247	3.2	20.6	23.8	61.9	-38.1
0.950	-2.2	20.1	17.9	56.0	-38.1
4.000	-2.6	20.2	17.6	56.0	-38.4
3.352	-3.5	20.2	16.7	56.0	-39.3
1.270	-3.5	20.0	16.5	56.0	-39.5
1.516	-3.8	20.1	16.3	56.0	-39.7
2.630	-4.1	20.2	16.1	56.0	-39.9
2.350	-4.5	20.2	15.7	56.0	-40.3
24.740	-1.7	21.4	19.7	60.0	-40.3
1.830	-4.8	20.2	15.4	56.0	-40.6
0.494	-5.2	20.2	15.0	56.1	-41.1
5.330	-1.9	20.1	18.2	60.0	-41.8
8.000	-2.3	20.3	18.0	60.0	-42.0
0.413	-4.8	20.3	15.5	57.6	-42.1
7.220	-2.3	20.2	17.9	60.0	-42.1
5.125	-2.5	20.1	17.6	60.0	-42.4
0.360	-4.3	20.3	16.0	58.7	-42.7

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	25.4	20.5	45.9	50.0	-4.1
30.000	11.9	21.8	33.7	50.0	-16.3
0.770	1.8	20.2	22.0	46.0	-24.0
0.670	0.8	20.2	21.0	46.0	-25.0
11.204	3.7	20.5	24.2	50.0	-25.8
11.330	3.3	20.5	23.8	50.0	-26.2
4.000	-4.2	20.2	16.0	46.0	-30.0
4.994	-4.2	20.1	15.9	46.0	-30.1
17.765	-1.0	20.8	19.8	50.0	-30.2
0.950	-4.5	20.1	15.6	46.0	-30.4
3.500	-5.1	20.2	15.1	46.0	-30.9
0.247	0.3	20.6	20.9	51.9	-31.0
2.848	-5.6	20.2	14.6	46.0	-31.4
16.740	-2.2	20.8	18.6	50.0	-31.4
1.270	-5.6	20.0	14.4	46.0	-31.6
1.516	-5.7	20.1	14.4	46.0	-31.6
2.276	-6.1	20.2	14.1	46.0	-31.9
24.000	-3.6	21.4	17.8	50.0	-32.2
1.850	-6.5	20.2	13.7	46.0	-32.3
0.490	-6.9	20.2	13.3	46.2	-32.9
5.330	-3.8	20.1	16.3	50.0	-33.7
8.000	-4.0	20.3	16.3	50.0	-33.7
7.078	-4.0	20.2	16.2	50.0	-33.8
0.413	-6.7	20.3	13.6	47.6	-34.0
0.360	-6.1	20.3	14.2	48.7	-34.5

CONCLUSION

Pass



Tested By

POWERLINE CONDUCTED EMISSIONS

element
WTD.2022.02.22.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

EUT:	GLP12411 SAL Alinity i End Section	Work Order:	ABBO0181
Serial Number:	SAL12409000010	Date:	2022-10-20
Customer:	Abbott Laboratories	Temperature:	19.7°C
Attendees:	Frank Sun	Relative Humidity:	33.3%
Customer Project:	None	Bar. Pressure (PMSL):	1018 mb
Tested By:	Jarrod Brenden	Job Site:	TX01
Power:	220VAC/60Hz	Configuration:	ABBO0181-4

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2022	ANSI C63.10:2013

TEST PARAMETERS

Run #:	29	Line:	Neutral	Add. Ext. Attenuation (dB):	0

COMMENTS

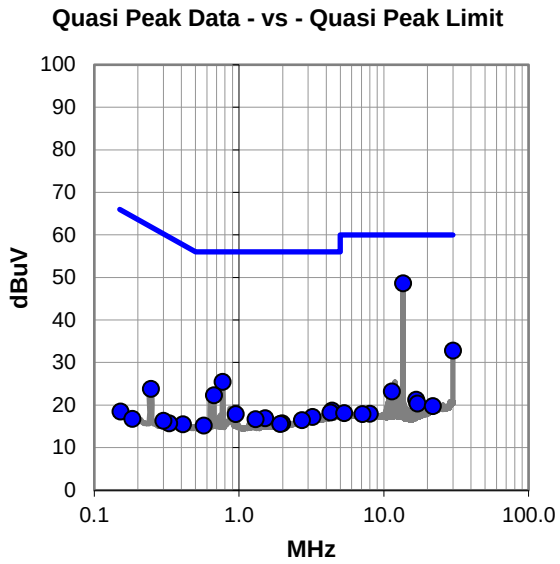
DivergentSwitch. PCB with singe RFID radio. Radio ON.

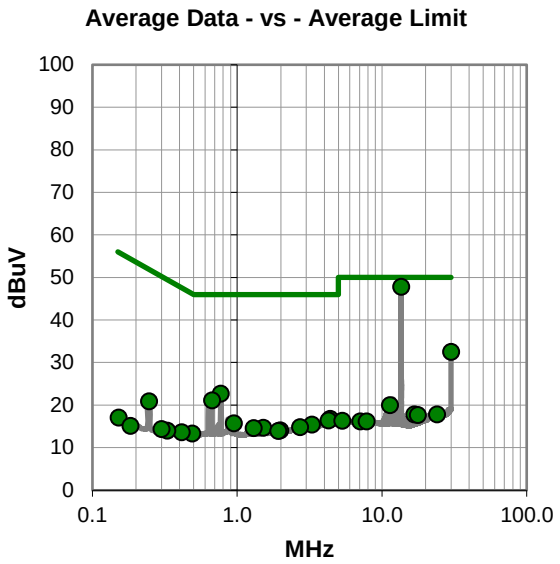
EUT OPERATING MODES

Transmitting 13.56 MHz RFID

DEVIATIONS FROM TEST STANDARD

None





POWERLINE CONDUCTED EMISSIONS

element
WTD.2022.02.22.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

RESULTS - Run #29

Quasi Peak Data - vs - Quasi Peak Limit

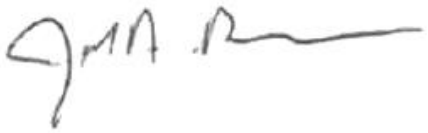
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	28.1	20.5	48.6	60.0	-11.4
30.000	11.0	21.8	32.8	60.0	-27.2
0.770	5.3	20.2	25.5	56.0	-30.5
0.670	2.1	20.2	22.3	56.0	-33.7
11.380	2.7	20.5	23.2	60.0	-36.8
4.390	-1.5	20.2	18.7	56.0	-37.3
4.270	-1.9	20.2	18.3	56.0	-37.7
0.247	3.2	20.6	23.8	61.9	-38.1
0.950	-2.2	20.1	17.9	56.0	-38.1
16.740	0.5	20.8	21.3	60.0	-38.7
3.220	-3.0	20.2	17.2	56.0	-38.8
1.516	-3.2	20.1	16.9	56.0	-39.1
1.300	-3.3	20.0	16.7	56.0	-39.3
2.722	-3.7	20.2	16.5	56.0	-39.5
17.072	-0.4	20.8	20.4	60.0	-39.6
21.790	-1.3	21.1	19.8	60.0	-40.2
1.979	-4.5	20.2	15.7	56.0	-40.3
1.920	-4.6	20.2	15.6	56.0	-40.4
0.570	-5.0	20.2	15.2	56.0	-40.8
5.330	-2.0	20.1	18.1	60.0	-41.9
8.000	-2.3	20.3	18.0	60.0	-42.0
0.410	-4.8	20.3	15.5	57.6	-42.1
7.100	-2.3	20.2	17.9	60.0	-42.1
0.330	-4.6	20.3	15.7	59.5	-43.8
0.300	-4.1	20.4	16.3	60.2	-43.9

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
13.560	27.3	20.5	47.8	50.0	-2.2
30.000	10.7	21.8	32.5	50.0	-17.5
0.770	2.5	20.2	22.7	46.0	-23.3
0.670	0.9	20.2	21.1	46.0	-24.9
4.390	-3.4	20.2	16.8	46.0	-29.2
4.270	-3.8	20.2	16.4	46.0	-29.6
11.384	-0.5	20.5	20.0	50.0	-30.0
0.950	-4.4	20.1	15.7	46.0	-30.3
3.280	-4.8	20.2	15.4	46.0	-30.6
0.247	0.3	20.6	20.9	51.9	-31.0
2.722	-5.4	20.2	14.8	46.0	-31.2
1.516	-5.4	20.1	14.7	46.0	-31.3
1.300	-5.4	20.0	14.6	46.0	-31.4
1.980	-6.1	20.2	14.1	46.0	-31.9
1.920	-6.3	20.2	13.9	46.0	-32.1
16.740	-3.0	20.8	17.8	50.0	-32.2
24.000	-3.6	21.4	17.8	50.0	-32.2
17.700	-3.1	20.8	17.7	50.0	-32.3
0.490	-6.9	20.2	13.3	46.2	-32.9
5.327	-3.8	20.1	16.3	50.0	-33.7
7.090	-4.0	20.2	16.2	50.0	-33.8
7.825	-4.1	20.3	16.2	50.0	-33.8
0.413	-6.7	20.3	13.6	47.6	-34.0
0.330	-6.3	20.3	14.0	49.5	-35.5
0.300	-6.0	20.4	14.4	50.2	-35.8

CONCLUSION

Pass



Tested By

FIELD STRENGTH OF FUNDAMENTAL

element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

TEST DESCRIPTION

The antennas to be used with the EUT were tested. The EUT was continuously transmitting while set to the channel specified.

The fundamental carrier of the EUT was maximized by rotating the EUT on a turntable and adjusting the measurement antenna height and polarization (per ANSI C63.10). A calibrated active loop antenna was used for this test in order to provide sufficient measurement sensitivity. The reference point of the loop antenna was maintained at 1m above the ground plane during the testing.

Measurements were made with the required detectors and annotated on the data for each individual point using the following annotation:

QP = Quasi-Peak Detector

As outlined in 15.209(e), 15.31(f)(2), and RSS-GEN, 6.5, measurements may be performed at a distance closer than what is specified with the limit. The limit at the specified distance is shown on the data sheet. Measurements are made at a closer distance and the data is adjusted using a distance correction factor of 40dB/decade for comparison to the limit.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Antenna - Loop	ETS Lindgren	6502	AZM	2022-07-19	2024-07-19
Cable	Northwest EMC	RE 9kHz - 1GHz	TXB	2022-06-10	2023-06-10
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFQ	2022-01-17	2023-01-17

MEASUREMENT UNCERTAINTY

Description		
Expanded k=2	1.8 dB	-1.8 dB

FREQUENCY RANGE INVESTIGATED

12.06 MHz TO 15.06 MHz

POWER INVESTIGATED

220VAC/60Hz

CONFIGURATIONS INVESTIGATED

ABBO0182-4

MODES INVESTIGATED

Transmitting 13.56 MHz RFID

FIELD STRENGTH OF FUNDAMENTAL

element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

EUT:	GLP12409 SAL Alinity c End Section	Work Order:	ABBO0182
Serial Number:	SAL12408000028	Date:	2022-10-18
Customer:	Abbott Laboratories	Temperature:	22°C
Attendees:	Frank Sun	Relative Humidity:	32.6%
Customer Project:	None	Bar. Pressure (PMSL):	1028 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0182-4

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2022	ANSI C63.10:2013

TEST PARAMETERS

Run #:	24	Test Distance (m):	10	Ant. Height(s) (m):	1(m)

COMMENTS

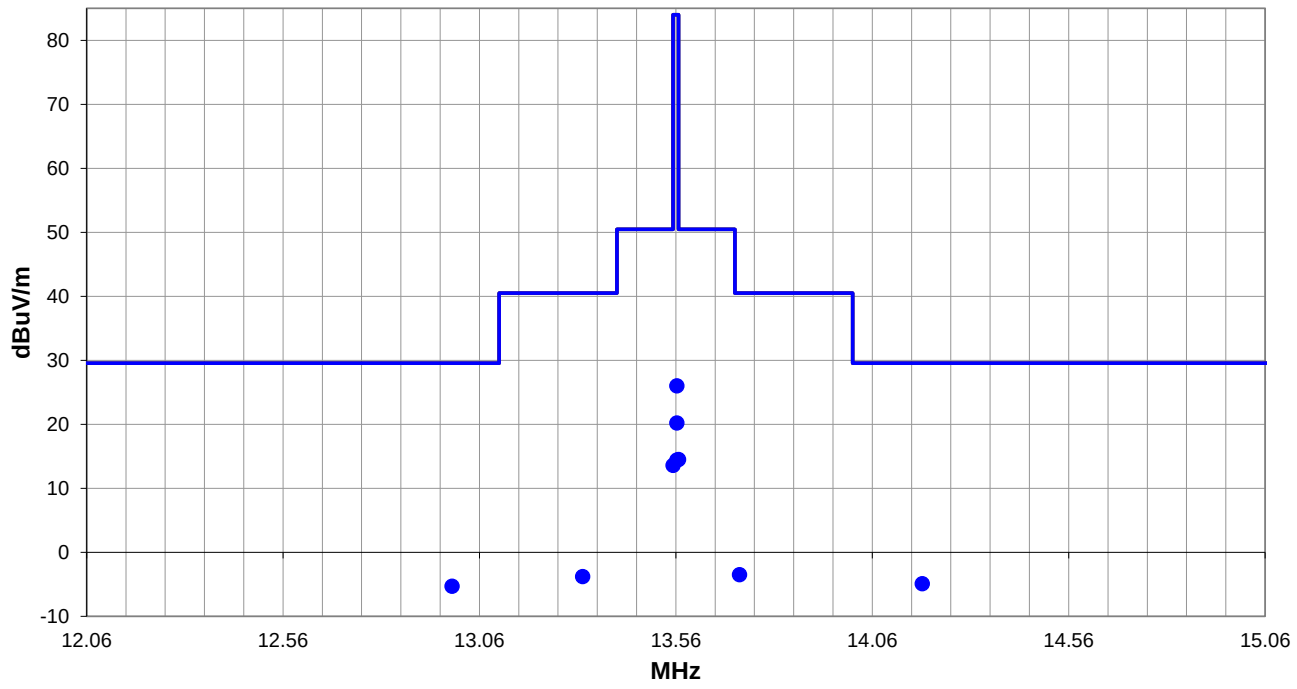
Four PCBs; AccessPoint (1 radio), CrossSwitch (2 radios), ConvergentSwitch (2 radios) DivergentSwitch (1 radio). All radios transmitting.

EUT OPERATING MODES

Transmitting 13.56 MHz RFID

DEVIATIONS FROM TEST STANDARD

None



Run #: 24 ■ PK ◆ AV ● QP

FIELD STRENGTH OF FUNDAMENTAL

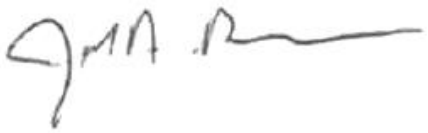
element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

RESULTS - Run #24

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
14.187	2.8	11.4	1.0	200.0	10.0	0.0	Perp to EUT	QP	-19.1	-4.9	29.5	-34.4	ALL radios ON
12.990	2.4	11.4	1.0	189.0	10.0	0.0	Perp to EUT	QP	-19.1	-5.3	29.5	-34.8	ALL radios ON
13.567	22.2	11.4	1.0	250.9	10.0	0.0	Perp to EUT	QP	-19.1	14.5	50.5	-36.0	ALL radios ON
13.553	21.3	11.4	1.0	285.9	10.0	0.0	Perp to EUT	QP	-19.1	13.6	50.5	-36.9	ALL radios ON
13.722	4.2	11.4	1.0	286.9	10.0	0.0	Perp to EUT	QP	-19.1	-3.5	40.5	-44.0	ALL radios ON
13.323	3.9	11.4	1.0	24.0	10.0	0.0	Perp to EUT	QP	-19.1	-3.8	40.5	-44.3	ALL radios ON
13.562	33.7	11.4	1.0	252.0	10.0	0.0	Perp to EUT	QP	-19.1	26.0	84.0	-58.0	ALL radios ON
13.563	27.9	11.4	1.0	279.0	10.0	0.0	Para to GND	QP	-19.1	20.2	84.0	-63.8	ALL radios ON
13.563	22.1	11.4	1.0	194.0	10.0	0.0	Para to EUT	QP	-19.1	14.4	84.0	-69.6	ALL radios ON

CONCLUSION

Pass



Tested By

FIELD STRENGTH OF FUNDAMENTAL

element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

EUT:	GLP12409 SAL Alinity c End Section	Work Order:	ABBO0182
Serial Number:	SAL12408000028	Date:	2022-10-18
Customer:	Abbott Laboratories	Temperature:	22°C
Attendees:	Frank Sun	Relative Humidity:	32.6%
Customer Project:	None	Bar. Pressure (PMSL):	1028 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0182-4

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2022	ANSI C63.10:2013

TEST PARAMETERS

Run #:	25	Test Distance (m):	10	Ant. Height(s) (m):	1(m)

COMMENTS

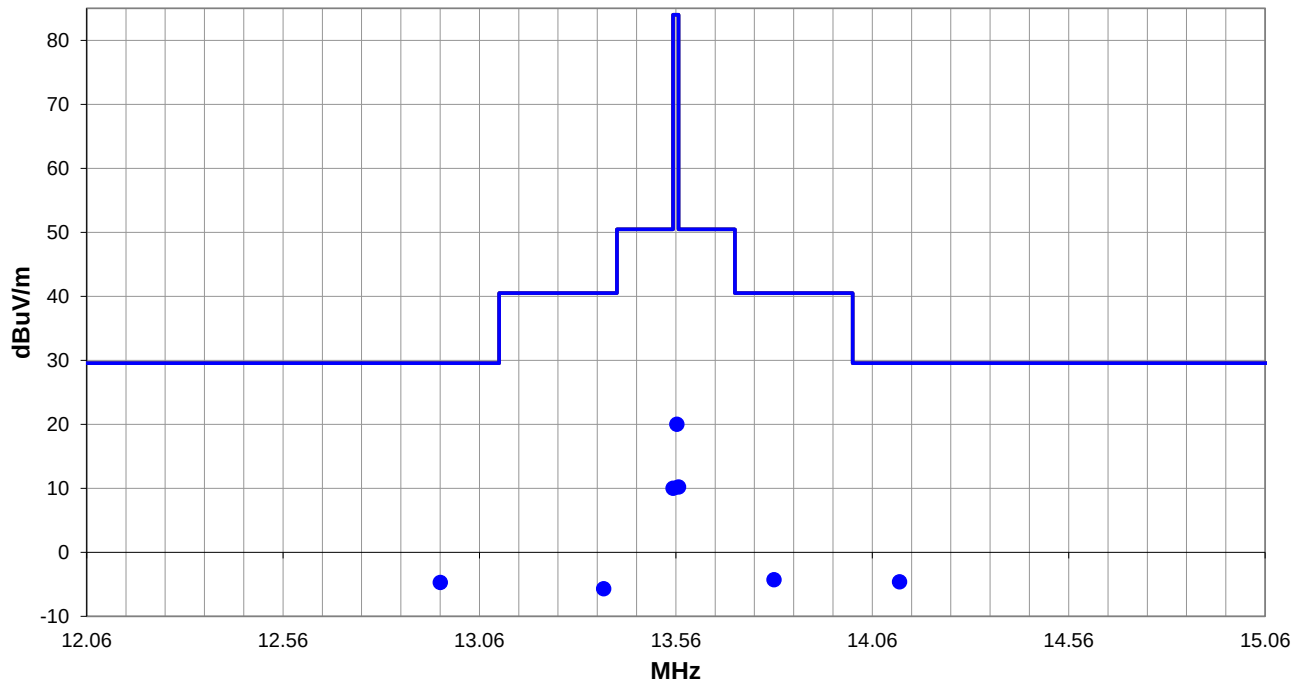
Four PCBs; AccessPoint (1 radio), CrossSwitch (2 radios), ConvergentSwitch (2 radios) DivergentSwitch (1 radio). Maximization determined with ALL radios ON. AccessPoint radio transmitting.

EUT OPERATING MODES

Transmitting 13.56 MHz RFID

DEVIATIONS FROM TEST STANDARD

None



Run #: 25 ■ PK ◆ AV ● QP

FIELD STRENGTH OF FUNDAMENTAL

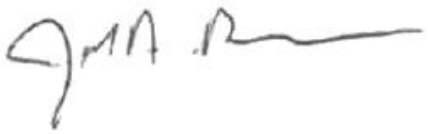
element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

RESULTS - Run #25

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
14.129	3.1	11.4	1.0	282.0	10.0	0.0	Perp to EUT	QP	-19.1	-4.6	29.5	-34.1	AccessPoint ON
12.960	3.0	11.4	1.0	80.0	10.0	0.0	Perp to EUT	QP	-19.1	-4.7	29.5	-34.2	AccessPoint ON
13.567	17.9	11.4	1.0	266.0	10.0	0.0	Perp to EUT	QP	-19.1	10.2	50.5	-40.3	AccessPoint ON
13.553	17.7	11.4	1.0	253.0	10.0	0.0	Perp to EUT	QP	-19.1	10.0	50.5	-40.5	AccessPoint ON
13.810	3.4	11.4	1.0	102.0	10.0	0.0	Perp to EUT	QP	-19.1	-4.3	40.5	-44.8	AccessPoint ON
13.376	2.0	11.4	1.0	91.0	10.0	0.0	Perp to EUT	QP	-19.1	-5.7	40.5	-46.2	AccessPoint ON
13.563	27.7	11.4	1.0	260.0	10.0	0.0	Perp to EUT	QP	-19.1	20.0	84.0	-64.0	AccessPoint ON

CONCLUSION

Pass



Tested By

FIELD STRENGTH OF FUNDAMENTAL

element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

EUT:	GLP12409 SAL Alinity c End Section	Work Order:	ABBO0182
Serial Number:	SAL12408000028	Date:	2022-10-18
Customer:	Abbott Laboratories	Temperature:	22°C
Attendees:	Frank Sun	Relative Humidity:	32.6%
Customer Project:	None	Bar. Pressure (PMSL):	1028 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0182-4

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2022	ANSI C63.10:2013

TEST PARAMETERS

Run #:	26	Test Distance (m):	10	Ant. Height(s) (m):	1(m)

COMMENTS

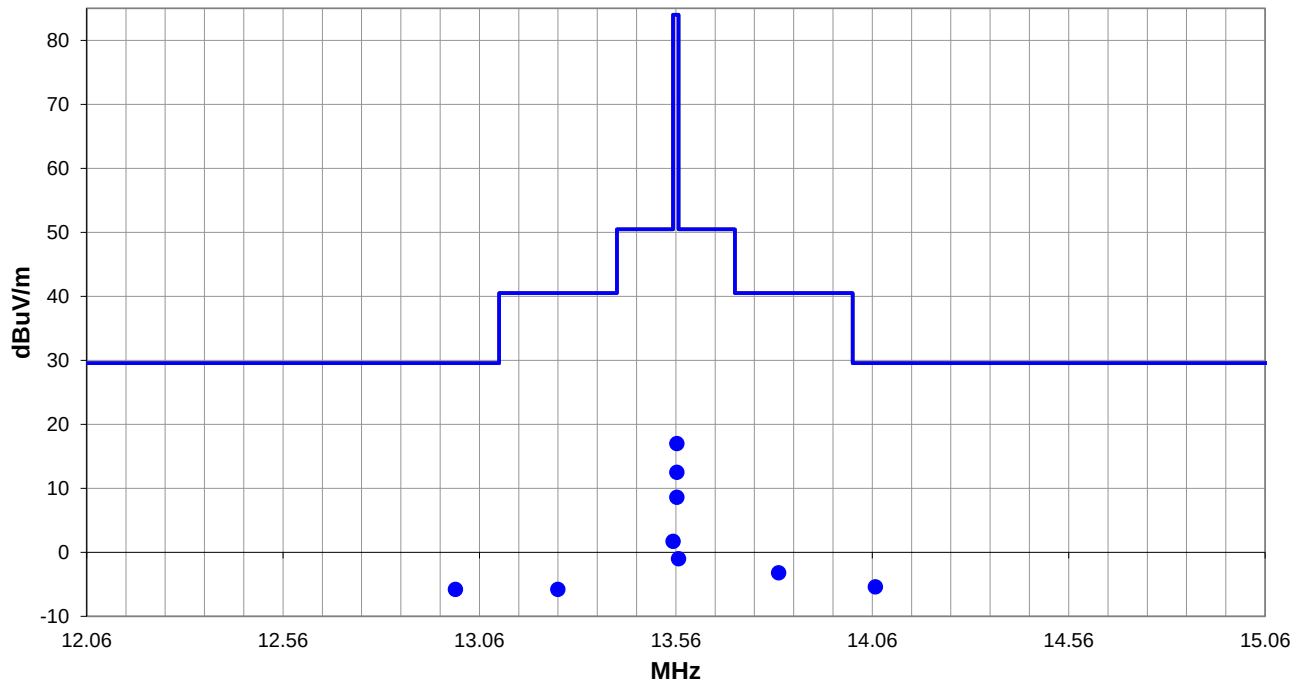
Four PCBs; AccessPoint (1 radio), CrossSwitch (2 radios), ConvergentSwitch (2 radios) DivergentSwitch (1 radio). Maximization determined with ALL radios ON. CrossSwitch radios transmitting.

EUT OPERATING MODES

Transmitting 13.56 MHz RFID

DEVIATIONS FROM TEST STANDARD

None



Run #: 26 ■ PK ◆ AV ● QP

FIELD STRENGTH OF FUNDAMENTAL

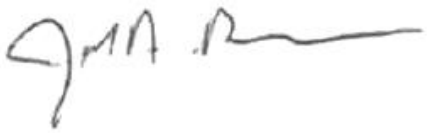
element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

RESULTS - Run #26

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
14.068	2.3	11.4	1.0	108.0	10.0	0.0	Perp to EUT	QP	-19.1	-5.4	29.5	-34.9	Both radios ON
12.999	1.9	11.4	1.0	246.0	10.0	0.0	Perp to EUT	QP	-19.1	-5.8	29.5	-35.3	Both radios ON
13.821	4.5	11.4	1.0	112.9	10.0	0.0	Perp to EUT	QP	-19.1	-3.2	40.5	-43.7	Both radios ON
13.260	1.9	11.4	1.0	337.0	10.0	0.0	Perp to EUT	QP	-19.1	-5.8	40.5	-46.3	Both radios ON
13.553	9.4	11.4	1.0	110.0	10.0	0.0	Perp to EUT	QP	-19.1	1.7	50.5	-48.8	Both radios ON
13.567	6.7	11.4	1.0	0.0	10.0	0.0	Perp to EUT	QP	-19.1	-1.0	50.5	-51.5	Both radios ON
13.562	24.7	11.4	1.0	153.9	10.0	0.0	Perp to EUT	QP	-19.1	17.0	84.0	-67.0	Both radios ON
13.562	20.2	11.4	1.0	150.0	10.0	0.0	Perp to EUT	QP	-19.1	12.5	84.0	-71.5	Radio 1 ON
13.562	16.3	11.4	1.0	152.0	10.0	0.0	Perp to EUT	QP	-19.1	8.6	84.0	-75.4	Radio 2 ON

CONCLUSION

Pass



Tested By

FIELD STRENGTH OF FUNDAMENTAL

element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

EUT:	GLP12409 SAL Alinity c End Section	Work Order:	ABBO0182
Serial Number:	SAL12408000028	Date:	2022-10-18
Customer:	Abbott Laboratories	Temperature:	22°C
Attendees:	Frank Sun	Relative Humidity:	32.6%
Customer Project:	None	Bar. Pressure (PMSL):	1028 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0182-4

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2022	ANSI C63.10:2013

TEST PARAMETERS

Run #:	27	Test Distance (m):	10	Ant. Height(s) (m):	1(m)

COMMENTS

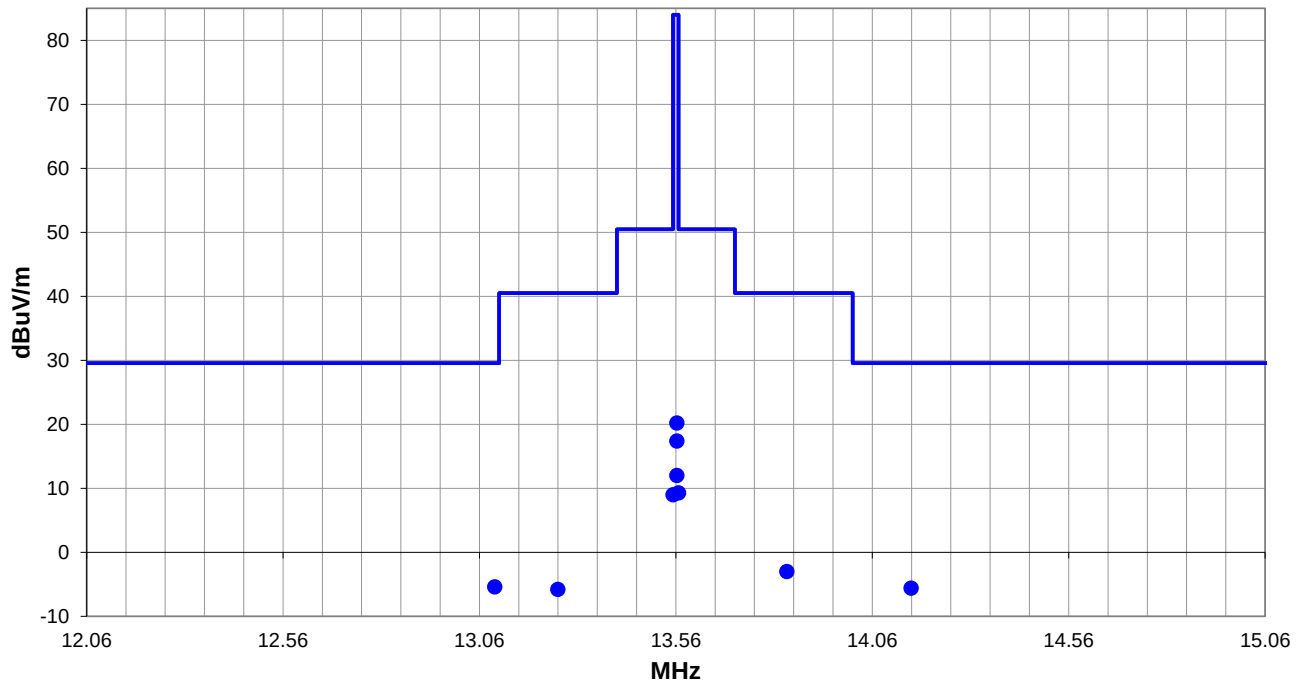
Four PCBs; AccessPoint (1 radio), CrossSwitch (2 radios), ConvergentSwitch (2 radios) DivergentSwitch (1 radio). Maximization determined with ALL radios ON. ConvergentSwitch radios transmitting.

EUT OPERATING MODES

Transmitting 13.56 MHz RFID

DEVIATIONS FROM TEST STANDARD

None



Run #: 27 ■ PK ◆ AV ● QP

FIELD STRENGTH OF FUNDAMENTAL

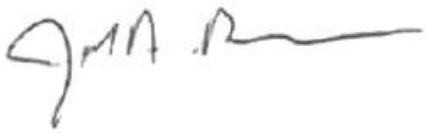
element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

RESULTS - Run #27

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
13.099	2.3	11.4	1.0	44.0	10.0	0.0	Perp to EUT	QP	-19.1	-5.4	29.5	-34.9	Both radios ON
14.159	2.1	11.4	1.0	360.0	10.0	0.0	Perp to EUT	QP	-19.1	-5.6	29.5	-35.1	Both radios ON
13.567	17.0	11.4	1.0	258.0	10.0	0.0	Perp to EUT	QP	-19.1	9.3	50.5	-41.2	Both radios ON
13.553	16.7	11.4	1.0	226.9	10.0	0.0	Perp to EUT	QP	-19.1	9.0	50.5	-41.5	Both radios ON
13.842	4.7	11.4	1.0	278.0	10.0	0.0	Perp to EUT	QP	-19.1	-3.0	40.5	-43.5	Both radios ON
13.260	1.9	11.4	1.0	337.0	10.0	0.0	Perp to EUT	QP	-19.1	-5.8	40.5	-46.3	Both radios ON
13.563	27.9	11.4	1.0	242.0	10.0	0.0	Perp to EUT	QP	-19.1	20.2	84.0	-63.8	Both radios ON
13.563	25.1	11.4	1.0	237.9	10.0	0.0	Perp to EUT	QP	-19.1	17.4	84.0	-66.6	Radio 1 ON
13.562	19.7	11.4	1.0	235.0	10.0	0.0	Perp to EUT	QP	-19.1	12.0	84.0	-72.0	Radio 2 ON

CONCLUSION

Pass



Tested By

FIELD STRENGTH OF FUNDAMENTAL

element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

EUT:	GLP12409 SAL Alinity c End Section	Work Order:	ABBO0182
Serial Number:	SAL12408000028	Date:	2022-10-18
Customer:	Abbott Laboratories	Temperature:	22°C
Attendees:	Frank Sun	Relative Humidity:	32.6%
Customer Project:	None	Bar. Pressure (PMSL):	1028 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0182-4

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2022	ANSI C63.10:2013

TEST PARAMETERS

Run #:	28	Test Distance (m):	10	Ant. Height(s) (m):	1(m)

COMMENTS

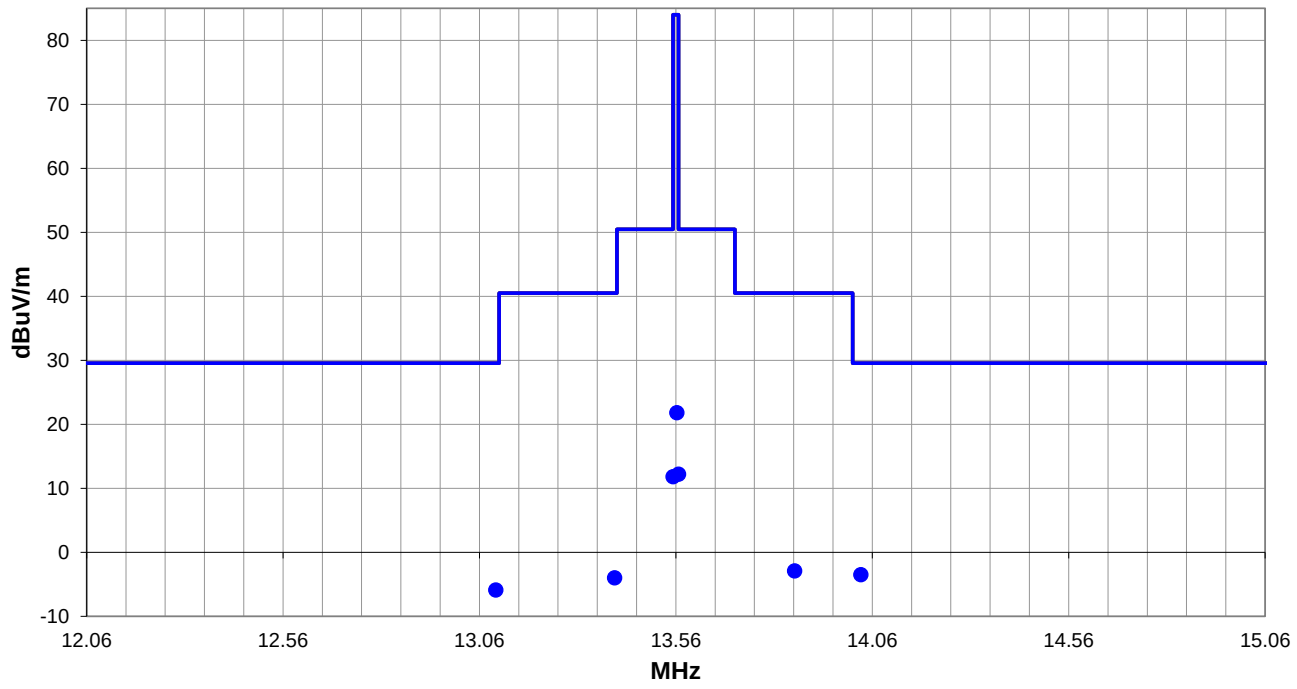
Four PCBs; AccessPoint (1 radio), CrossSwitch (2 radios), ConvergentSwitch (2 radios) DivergentSwitch (1 radio). Maximization determined with ALL radios ON. DivergentSwitch radio transmitting.

EUT OPERATING MODES

Transmitting 13.56 MHz RFID

DEVIATIONS FROM TEST STANDARD

None



Run #: 28 ■ PK ◆ AV ● QP

FIELD STRENGTH OF FUNDAMENTAL

element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

RESULTS - Run #28

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
14.031	4.2	11.4	1.0	219.0	10.0	0.0	Perp to EUT	QP	-19.1	-3.5	29.5	-33.0	DivergentSwitch ON
13.102	1.8	11.4	1.0	265.0	10.0	0.0	Perp to EUT	QP	-19.1	-5.9	29.5	-35.4	DivergentSwitch ON
13.567	19.9	11.4	1.0	129.9	10.0	0.0	Perp to EUT	QP	-19.1	12.2	50.5	-38.3	DivergentSwitch ON
13.553	19.5	11.4	1.0	111.9	10.0	0.0	Perp to EUT	QP	-19.1	11.8	50.5	-38.7	DivergentSwitch ON
13.862	4.8	11.4	1.0	80.0	10.0	0.0	Perp to EUT	QP	-19.1	-2.9	40.5	-43.4	DivergentSwitch ON
13.404	3.7	11.4	1.0	108.0	10.0	0.0	Perp to EUT	QP	-19.1	-4.0	40.5	-44.5	DivergentSwitch ON
13.562	29.5	11.4	1.0	105.9	10.0	0.0	Perp to EUT	QP	-19.1	21.8	84.0	-62.2	DivergentSwitch ON

CONCLUSION

Pass

Tested By

FIELD STRENGTH OF FUNDAMENTAL

element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

TEST DESCRIPTION

The antennas to be used with the EUT were tested. The EUT was continuously transmitting while set to the channel specified.

The fundamental carrier of the EUT was maximized by rotating the EUT on a turntable and adjusting the measurement antenna height and polarization (per ANSI C63.10). A calibrated active loop antenna was used for this test in order to provide sufficient measurement sensitivity. The reference point of the loop antenna was maintained at 1m above the ground plane during the testing.

Measurements were made with the required detectors and annotated on the data for each individual point using the following annotation:

QP = Quasi-Peak Detector

As outlined in 15.209(e), 15.31(f)(2), and RSS-GEN, 6.5, measurements may be performed at a distance closer than what is specified with the limit. The limit at the specified distance is shown on the data sheet. Measurements are made at a closer distance and the data is adjusted using a distance correction factor of 40dB/decade for comparison to the limit.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Receiver	Rohde & Schwarz	ESR26	ARQ	2022-05-02	2023-05-02
Cable	Northwest EMC	RE 9kHz - 1GHz	TXB	2022-06-10	2023-06-10
Antenna - Loop	ETS Lindgren	6502	AZM	2022-07-19	2024-07-19

MEASUREMENT UNCERTAINTY

Description		
Expanded k=2	1.8 dB	-1.8 dB

FREQUENCY RANGE INVESTIGATED

12.06 MHz TO 15.06 MHz

POWER INVESTIGATED

220VAC/60Hz

CONFIGURATIONS INVESTIGATED

ABBO0181-4

MODES INVESTIGATED

Transmitting 13.56 MHz RFID

FIELD STRENGTH OF FUNDAMENTAL

element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

EUT:	GLP12411 SAL Alinity i End Section	Work Order:	ABBO0181
Serial Number:	SAL12409000010	Date:	2022-10-17
Customer:	Abbott Laboratories	Temperature:	22.1°C
Attendees:	Frank Sun	Relative Humidity:	51.2%
Customer Project:	None	Bar. Pressure (PMSL):	1019 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0181-4

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2022	ANSI C63.10:2013

TEST PARAMETERS

Run #:	11	Test Distance (m):	10	Ant. Height(s) (m):	1(m)

COMMENTS

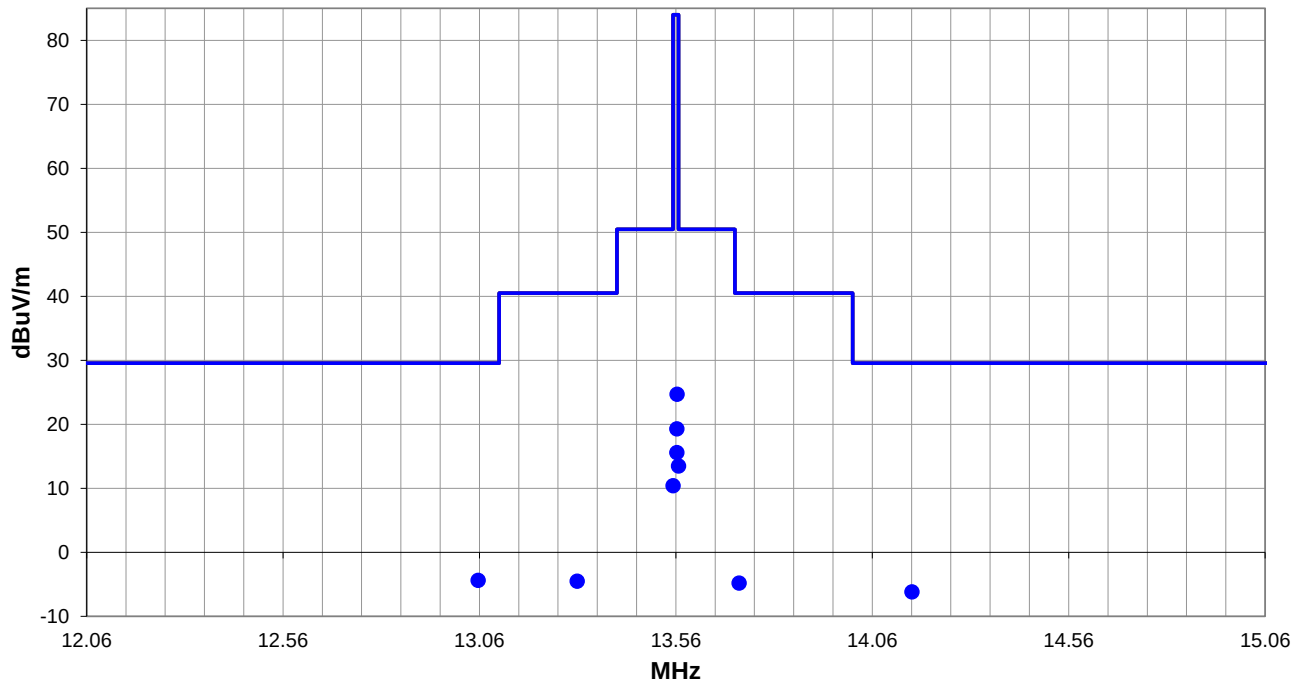
Four PCB; AccessPoint (1 radio), ConvergentSwitch (1 radio), DivergentSwitch (2 radios), CrossSwitch (2 radios). ALL radios ON.

EUT OPERATING MODES

Transmitting 13.56 MHz RFID

DEVIATIONS FROM TEST STANDARD

None



Run #: 11 ■ PK ◆ AV ● QP

FIELD STRENGTH OF FUNDAMENTAL

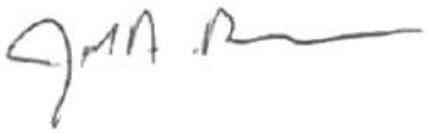
element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

RESULTS - Run #11

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
13.056	3.3	11.4	1.0	295.0	10.0	0.0	Perp to EUT	QP	-19.1	-4.4	29.5	-33.9
14.161	1.5	11.4	1.0	217.0	10.0	0.0	Perp to EUT	QP	-19.1	-6.2	29.5	-35.7
13.567	21.2	11.4	1.0	98.0	10.0	0.0	Perp to EUT	QP	-19.1	13.5	50.5	-37.0
13.553	18.1	11.4	1.0	219.9	10.0	0.0	Perp to EUT	QP	-19.1	10.4	50.5	-40.1
13.309	3.2	11.4	1.0	344.0	10.0	0.0	Perp to EUT	QP	-19.1	-4.5	40.5	-45.0
13.721	2.9	11.4	1.0	87.9	10.0	0.0	Perp to EUT	QP	-19.1	-4.8	40.5	-45.3
13.563	32.4	11.4	1.0	103.0	10.0	0.0	Perp to EUT	QP	-19.1	24.7	84.0	-59.3
13.563	27.0	11.4	1.0	108.0	10.0	0.0	Para to GND	QP	-19.1	19.3	84.0	-64.7
13.563	23.3	11.4	1.0	207.0	10.0	0.0	Para to EUT	QP	-19.1	15.6	84.0	-68.4

CONCLUSION

Pass



Tested By

FIELD STRENGTH OF FUNDAMENTAL

element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

EUT:	GLP12411 SAL Alinity i End Section	Work Order:	ABBO0181
Serial Number:	SAL12409000010	Date:	2022-10-17
Customer:	Abbott Laboratories	Temperature:	22.1°C
Attendees:	Frank Sun	Relative Humidity:	51.2%
Customer Project:	None	Bar. Pressure (PMSL):	1019 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0181-4

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2022	ANSI C63.10:2013

TEST PARAMETERS

Run #:	12	Test Distance (m):	10	Ant. Height(s) (m):	1(m)

COMMENTS

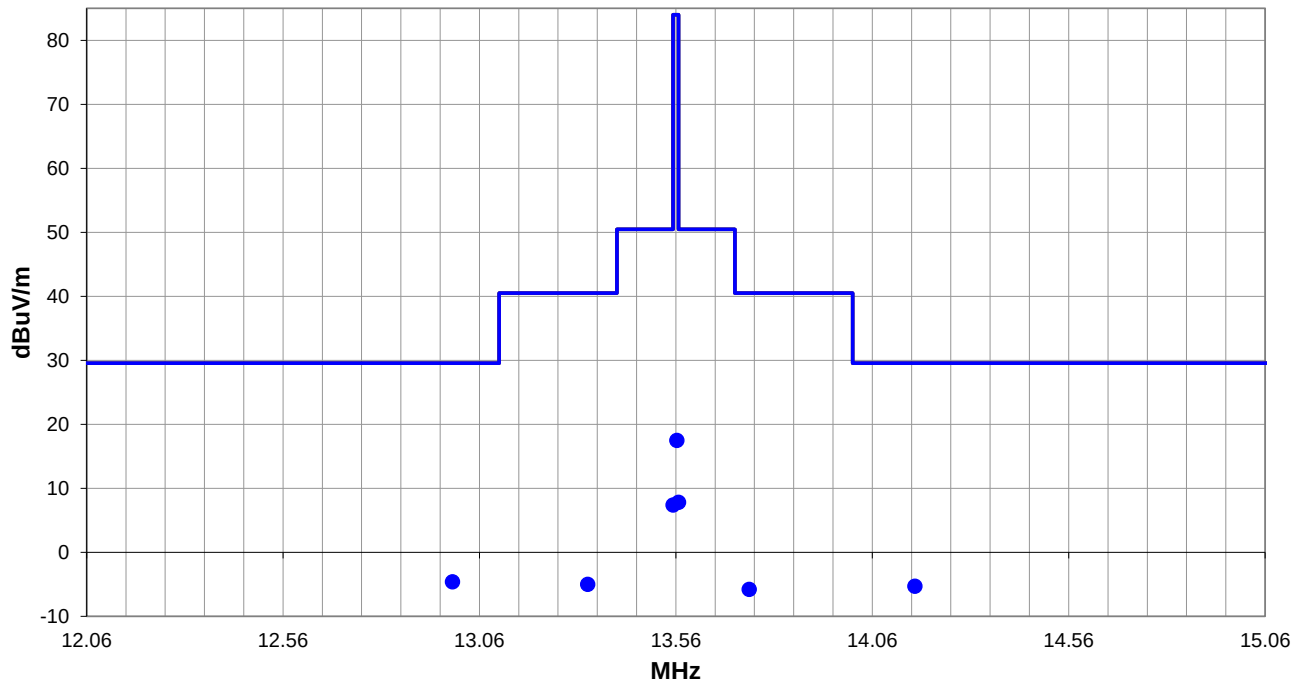
Four PCB; AccessPoint (1 radio), ConvergentSwitch (1 radio), DivergentSwitch (2 radios), CrossSwitch (2 radios). Maximization determined with ALL radios ON. AccessPoint radio.

EUT OPERATING MODES

Transmitting 13.56 MHz RFID

DEVIATIONS FROM TEST STANDARD

None



Run #: 12 ■ PK ◆ AV ● QP

FIELD STRENGTH OF FUNDAMENTAL

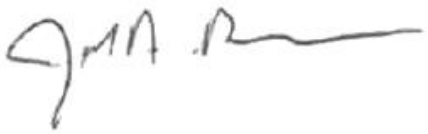
element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

RESULTS - Run #12

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
12.991	3.1	11.4	1.0	297.9	10.0	0.0	Perp to EUT	QP	-19.1	-4.6	29.5	-34.1	AccessPoint ON
14.168	2.4	11.4	1.0	134.0	10.0	0.0	Perp to EUT	QP	-19.1	-5.3	29.5	-34.8	AccessPoint ON
13.567	15.5	11.4	1.0	261.0	10.0	0.0	Perp to EUT	QP	-19.1	7.8	50.5	-42.7	AccessPoint ON
13.553	15.1	11.4	1.0	254.0	10.0	0.0	Perp to EUT	QP	-19.1	7.4	50.5	-43.1	AccessPoint ON
13.336	2.7	11.4	1.0	111.0	10.0	0.0	Perp to EUT	QP	-19.1	-5.0	40.5	-45.5	AccessPoint ON
13.747	1.9	11.4	1.0	195.0	10.0	0.0	Perp to EUT	QP	-19.1	-5.8	40.5	-46.3	AccessPoint ON
13.562	25.2	11.4	1.0	266.0	10.0	0.0	Perp to EUT	QP	-19.1	17.5	84.0	-66.5	AccessPoint ON

CONCLUSION

Pass



Tested By

FIELD STRENGTH OF FUNDAMENTAL

element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

EUT:	GLP12411 SAL Alinity i End Section	Work Order:	ABBO0181
Serial Number:	SAL12409000010	Date:	2022-10-17
Customer:	Abbott Laboratories	Temperature:	22.1°C
Attendees:	Frank Sun	Relative Humidity:	51.2%
Customer Project:	None	Bar. Pressure (PMSL):	1019 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0181-4

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2022	ANSI C63.10:2013

TEST PARAMETERS

Run #:	13	Test Distance (m):	10	Ant. Height(s) (m):	1(m)

COMMENTS

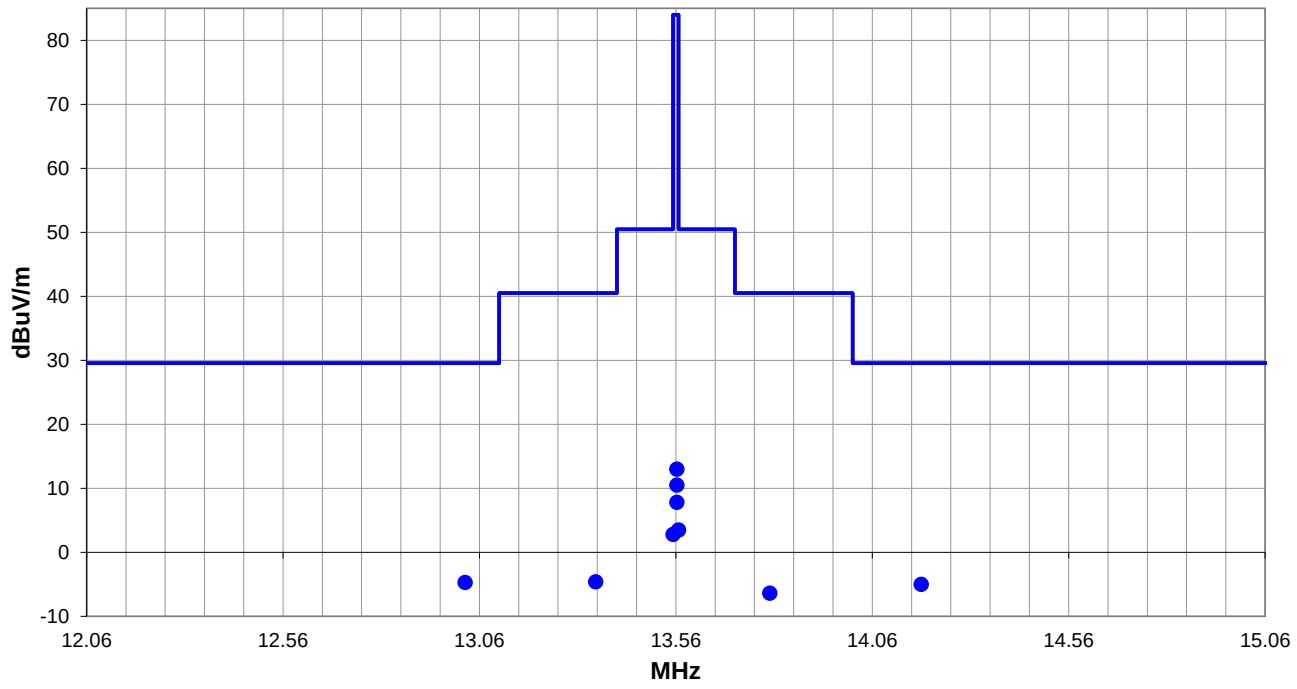
Four PCB; AccessPoint (1 radio), ConvergentSwitch (1 radio), DivergentSwitch (2 radios), CrossSwitch (2 radios). Maximization determined with ALL radios ON. CrossSwitch radios.

EUT OPERATING MODES

Transmitting 13.56 MHz RFID

DEVIATIONS FROM TEST STANDARD

None



Run #: 13 ■ PK ◆ AV ● QP

FIELD STRENGTH OF FUNDAMENTAL

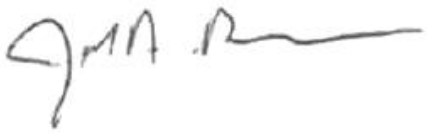
element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

RESULTS - Run #13

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
13.023	3.0	11.4	1.0	111.0	10.0	0.0	Perp to EUT	QP	-19.1	-4.7	29.5	-34.2	BOTH radios ON
14.185	2.7	11.4	1.0	38.0	10.0	0.0	Perp to EUT	QP	-19.1	-5.0	29.5	-34.5	BOTH radios ON
13.356	3.1	11.4	1.0	248.0	10.0	0.0	Perp to EUT	QP	-19.1	-4.6	40.5	-45.1	BOTH radios ON
13.799	1.3	11.4	1.0	247.0	10.0	0.0	Perp to EUT	QP	-19.1	-6.4	40.5	-46.9	BOTH radios ON
13.567	11.2	11.4	1.0	139.0	10.0	0.0	Perp to EUT	QP	-19.1	3.5	50.5	-47.0	BOTH radios ON
13.553	10.5	11.4	1.0	163.0	10.0	0.0	Perp to EUT	QP	-19.1	2.8	50.5	-47.7	BOTH radios ON
13.562	20.7	11.4	1.0	152.0	10.0	0.0	Perp to EUT	QP	-19.1	13.0	84.0	-71.0	BOTH radios ON
13.562	18.2	11.4	1.0	126.0	10.0	0.0	Perp to EUT	QP	-19.1	10.5	84.0	-73.5	Radio 1 ON
13.563	15.5	11.4	1.0	171.0	10.0	0.0	Perp to EUT	QP	-19.1	7.8	84.0	-76.2	Radio 2 ON

CONCLUSION

Pass



Tested By

FIELD STRENGTH OF FUNDAMENTAL

element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

EUT:	GLP12411 SAL Alinity i End Section	Work Order:	ABBO0181
Serial Number:	SAL12409000010	Date:	2022-10-17
Customer:	Abbott Laboratories	Temperature:	22.1°C
Attendees:	Frank Sun	Relative Humidity:	51.2%
Customer Project:	None	Bar. Pressure (PMSL):	1019 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0181-4

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2022	ANSI C63.10:2013

TEST PARAMETERS

Run #:	14	Test Distance (m):	10	Ant. Height(s) (m):	1(m)

COMMENTS

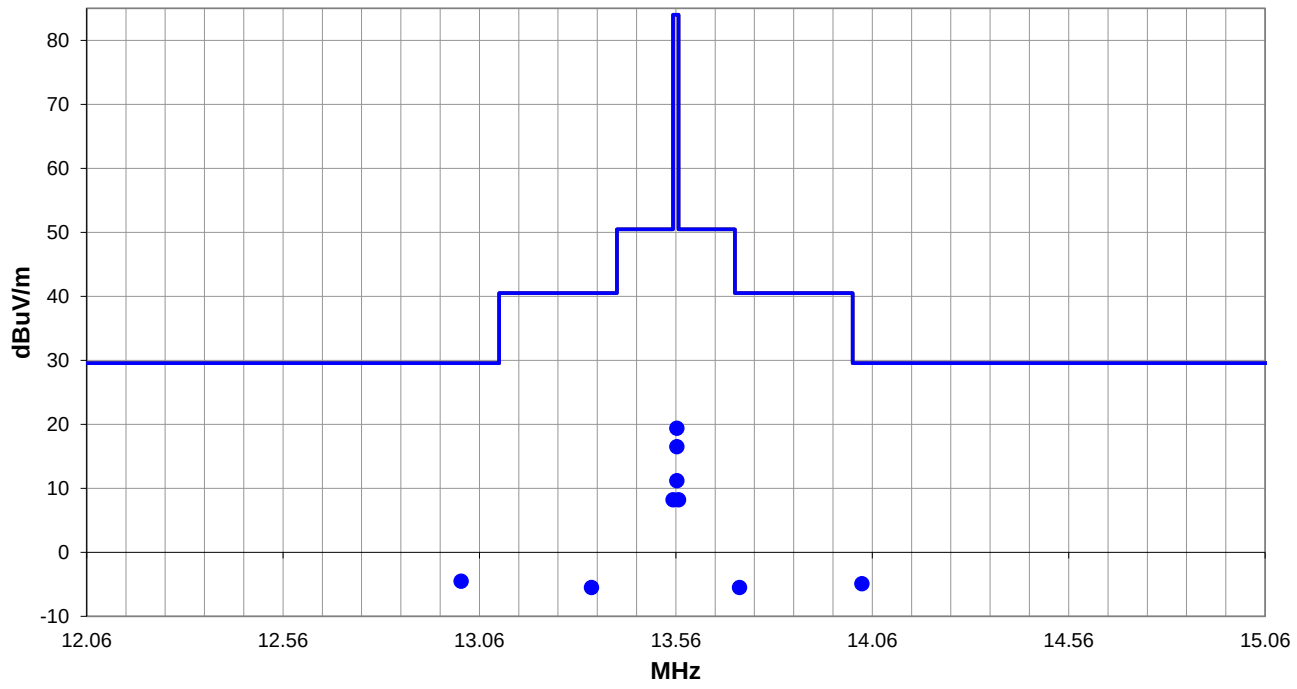
Four PCB; AccessPoint (1 radio), ConvergentSwitch (1 radio), DivergentSwitch (2 radios), CrossSwitch (2 radios). Maximization determined with ALL radios ON. ConvergentSwitch radios.

EUT OPERATING MODES

Transmitting 13.56 MHz RFID

DEVIATIONS FROM TEST STANDARD

None



Run #: 14 ■ PK ◆ AV ● QP

FIELD STRENGTH OF FUNDAMENTAL

element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

RESULTS - Run #14

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
13.013	3.2	11.4	1.0	160.9	10.0	0.0	Perp to EUT	QP	-19.1	-4.5	29.5	-34.0	BOTH Radios ON
14.033	2.8	11.4	1.0	57.9	10.0	0.0	Perp to EUT	QP	-19.1	-4.9	29.5	-34.4	BOTH Radios ON
13.553	15.9	11.4	1.0	255.0	10.0	0.0	Perp to EUT	QP	-19.1	8.2	50.5	-42.3	BOTH Radios ON
13.567	15.9	11.4	1.0	75.0	10.0	0.0	Perp to EUT	QP	-19.1	8.2	50.5	-42.3	BOTH Radios ON
13.345	2.2	11.4	1.0	342.0	10.0	0.0	Perp to EUT	QP	-19.1	-5.5	40.5	-46.0	BOTH Radios ON
13.722	2.2	11.4	1.0	38.0	10.0	0.0	Perp to EUT	QP	-19.1	-5.5	40.5	-46.0	BOTH Radios ON
13.563	27.1	11.4	1.0	240.0	10.0	0.0	Perp to EUT	QP	-19.1	19.4	84.0	-64.6	BOTH Radios ON
13.563	24.2	11.4	1.0	246.0	10.0	0.0	Perp to EUT	QP	-19.1	16.5	84.0	-67.5	Radio 1 ON
13.562	18.9	11.4	1.0	241.0	10.0	0.0	Perp to EUT	QP	-19.1	11.2	84.0	-72.8	Radio 2 ON

CONCLUSION

Pass

Tested By

FIELD STRENGTH OF FUNDAMENTAL

element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

EUT:	GLP12411 SAL Alinity i End Section	Work Order:	ABBO0181
Serial Number:	SAL12409000010	Date:	2022-10-17
Customer:	Abbott Laboratories	Temperature:	22.1°C
Attendees:	Frank Sun	Relative Humidity:	51.2%
Customer Project:	None	Bar. Pressure (PMSL):	1019 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0181-4

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2022	ANSI C63.10:2013

TEST PARAMETERS

Run #:	15	Test Distance (m):	10	Ant. Height(s) (m):	1(m)

COMMENTS

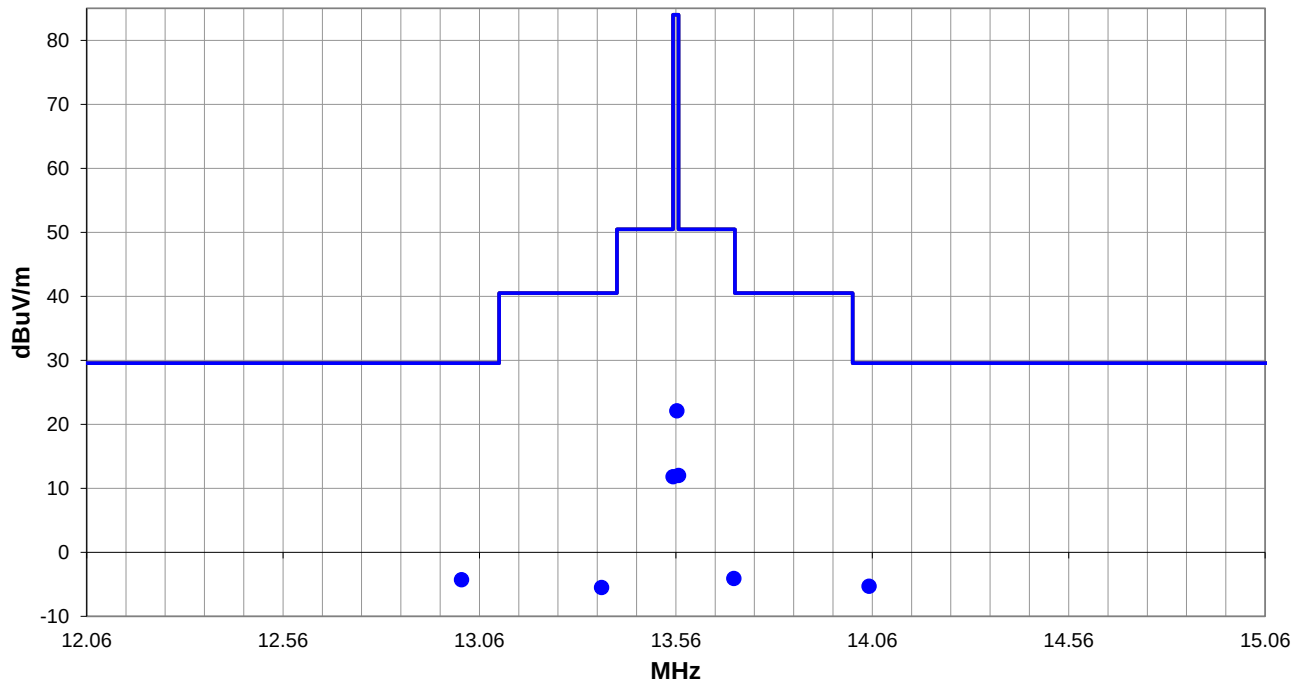
Four PCB; AccessPoint (1 radio), ConvergentSwitch (1 radio), DivergentSwitch (2 radios), CrossSwitch (2 radios). Maximization determined with ALL radios ON. DivergentSwitch radio ON.

EUT OPERATING MODES

Transmitting 13.56 MHz RFID

DEVIATIONS FROM TEST STANDARD

None



Run #: 15 ■ PK ◆ AV ● QP

FIELD STRENGTH OF FUNDAMENTAL

element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

RESULTS - Run #15

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
13.014	3.4	11.4	1.0	225.9	10.0	0.0	Perp to EUT	QP	-19.1	-4.3	29.5	-33.8	Divergent radio ON
14.052	2.4	11.4	1.0	76.9	10.0	0.0	Perp to EUT	QP	-19.1	-5.3	29.5	-34.8	Divergent radio ON
13.567	19.7	11.4	1.0	105.9	10.0	0.0	Perp to EUT	QP	-19.1	12.0	50.5	-38.5	Divergent radio ON
13.553	19.5	11.4	1.0	109.0	10.0	0.0	Perp to EUT	QP	-19.1	11.8	50.5	-38.7	Divergent radio ON
13.371	2.2	11.4	1.0	0.0	10.0	0.0	Perp to EUT	QP	-19.1	-5.5	40.5	-46.0	Divergent radio ON
13.708	3.6	11.4	1.0	106.9	10.0	0.0	Perp to EUT	QP	-19.1	-4.1	50.5	-54.6	Divergent radio ON
13.563	29.8	11.4	1.0	123.0	10.0	0.0	Perp to EUT	QP	-19.1	22.1	84.0	-61.9	Divergent radio ON

CONCLUSION

Pass

Tested By

FIELD STRENGTH OF SPURIOUS EMISSIONS (LESS THAN 30 MHz)

element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

TEST DESCRIPTION

The antennas to be used with the EUT were tested. The EUT was continuously transmitting while set to the channel specified.

For each configuration, the spectrum was scanned throughout the specified range as part of the exploratory investigation of the emissions. These “pre-scans” are not included in the report. Final measurements on individual emissions were then made and included in this test report.

The individual emissions from the EUT were maximized by rotating the EUT on a turntable and adjusting the measurement antenna height and polarization (per ANSI C63.10). An active loop antenna was used for this test in order to provide sufficient measurement sensitivity.

Measurements were made with the required detectors and annotated on the data for each individual point using the following annotation:

QP = Quasi-Peak Detector

If there are no detectable emissions above the noise floor, the data included may show noise floor measurements for reference only.

As outlined in 15.209(e), 15.31(f)(2), and RSS-GEN, 6.5, measurements may be performed at a distance closer than what is specified with the limit. The limit at the specified distance is shown on the data sheet. Measurements are made at a closer distance and the data is adjusted using a distance correction factor of 40dB/decade for comparison to the limit.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Receiver	Rohde & Schwarz	ESR26	ARQ	2022-05-02	2023-05-02
Cable	Northwest EMC	RE 9kHz - 1GHz	TXB	2022-06-10	2023-06-10
Antenna - Loop	ETS Lindgren	6502	AZM	2022-07-19	2024-07-19

MEASUREMENT UNCERTAINTY

Description		
Expanded k=2	1.8 dB	-1.8 dB

FREQUENCY RANGE INVESTIGATED

9 kHz TO 30 MHz

POWER INVESTIGATED

220VAC/60Hz

CONFIGURATIONS INVESTIGATED

ABBO0182-4

MODES INVESTIGATED

Transmitting 13.56 MHz RFID

FIELD STRENGTH OF SPURIOUS EMISSIONS (LESS THAN 30 MHz)

element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

EUT:	GLP12409 SAL Alinity c End Section	Work Order:	ABBO0182
Serial Number:	SAL12408000028	Date:	2022-10-18
Customer:	Abbott Laboratories	Temperature:	22°C
Attendees:	Frank Sun	Relative Humidity:	32.6%
Customer Project:	None	Bar. Pressure (PMSL):	1028 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0182-4

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2022	ANSI C63.10:2013

TEST PARAMETERS

Run #:	33	Test Distance (m):	10	Ant. Height(s) (m):	1(m)

COMMENTS

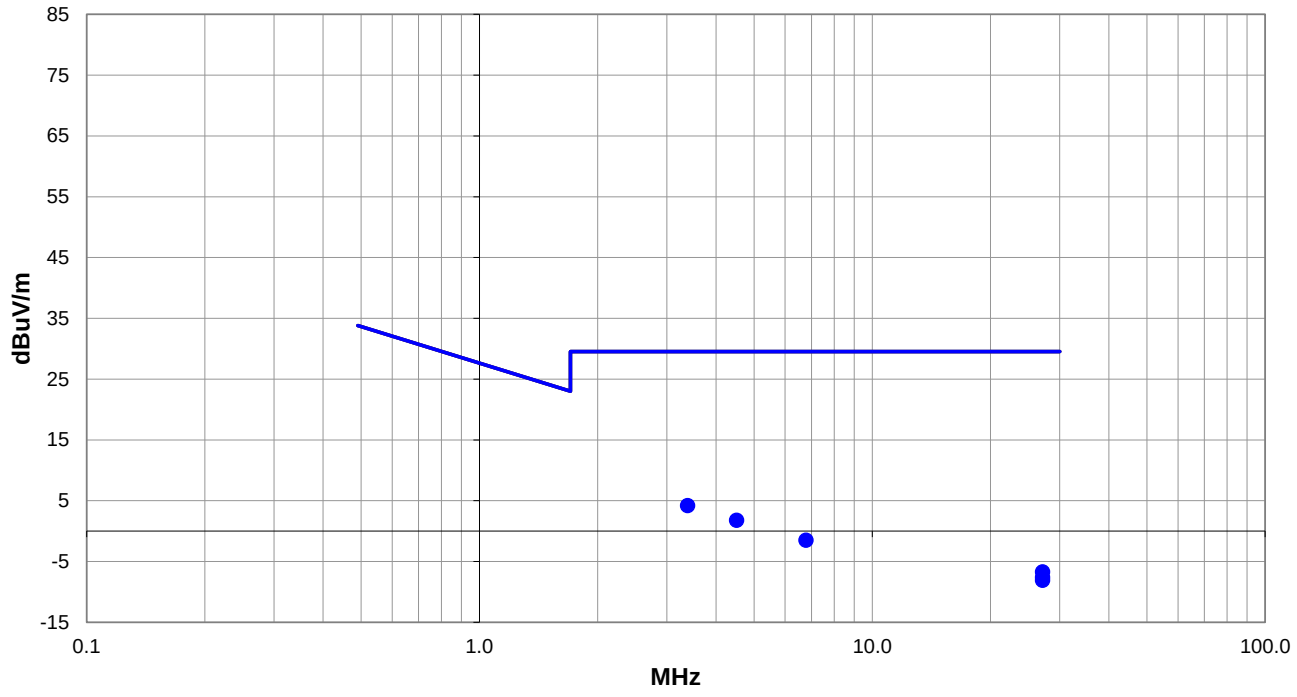
Four PCBs; AccessPoint (1 radio), CrossSwitch (2 radios), ConvergentSwitch (2 radios) DivergentSwitch (1 radio). ALL radios ON.

EUT OPERATING MODES

Transmitting 13.56 MHz RFID

DEVIATIONS FROM TEST STANDARD

None



Run #: 33 ■ PK ◆ AV ● QP

FIELD STRENGTH OF SPURIOUS EMISSIONS (LESS THAN 30 MHz)

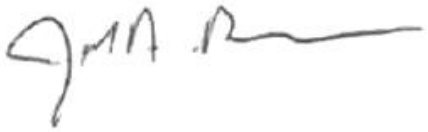
element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

RESULTS - Run #33

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
3.386	11.9	11.4	1.0	114.0	10.0	0.0	Perp to EUT	QP	-19.1	4.2	29.5	-25.3	ALL radios ON
4.515	9.4	11.5	1.0	243.0	10.0	0.0	Perp to EUT	QP	-19.1	1.8	29.5	-27.7	ALL radios ON
6.776	6.2	11.4	1.0	9.0	10.0	0.0	Perp to EUT	QP	-19.1	-1.5	29.5	-31.0	ALL radios ON
27.125	2.6	9.8	1.0	117.9	10.0	0.0	Perp to EUT	QP	-19.1	-6.7	29.5	-36.2	ALL radios ON
27.125	1.7	9.8	1.0	333.9	10.0	0.0	Para to GND	QP	-19.1	-7.6	29.5	-37.1	ALL radios ON
27.120	1.2	9.8	1.0	69.0	10.0	0.0	Para to EUT	QP	-19.1	-8.1	29.5	-37.6	ALL radios ON

CONCLUSION

Pass



Tested By

FIELD STRENGTH OF SPURIOUS EMISSIONS (LESS THEN 30 MHz)

element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

TEST DESCRIPTION

The antennas to be used with the EUT were tested. The EUT was continuously transmitting while set to the channel specified.

For each configuration, the spectrum was scanned throughout the specified range as part of the exploratory investigation of the emissions. These “pre-scans” are not included in the report. Final measurements on individual emissions were then made and included in this test report.

The individual emissions from the EUT were maximized by rotating the EUT on a turntable and adjusting the measurement antenna height and polarization (per ANSI C63.10). An active loop antenna was used for this test in order to provide sufficient measurement sensitivity.

Measurements were made with the required detectors and annotated on the data for each individual point using the following annotation:

QP = Quasi-Peak Detector

If there are no detectable emissions above the noise floor, the data included may show noise floor measurements for reference only.

As outlined in 15.209(e), 15.31(f)(2), and RSS-GEN, 6.5, measurements may be performed at a distance closer than what is specified with the limit. The limit at the specified distance is shown on the data sheet. Measurements are made at a closer distance and the data is adjusted using a distance correction factor of 40dB/decade for comparison to the limit.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFQ	2022-01-17	2023-01-17
Cable	Northwest EMC	RE 9kHz - 1GHz	TXB	2022-06-10	2023-06-10
Antenna - Loop	ETS Lindgren	6502	AZM	2022-07-19	2024-07-19

MEASUREMENT UNCERTAINTY

Description		
Expanded k=2	1.8 dB	-1.8 dB

FREQUENCY RANGE INVESTIGATED

9 kHz TO 30 MHz

POWER INVESTIGATED

220VAC/60Hz

CONFIGURATIONS INVESTIGATED

ABBO0181-4

MODES INVESTIGATED

Transmitting 13.56 MHz RFID

FIELD STRENGTH OF SPURIOUS EMISSIONS (LESS THEN 30 MHz)

element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

EUT:	GLP12411 SAL Alinity i End Section	Work Order:	ABBO0181
Serial Number:	SAL12409000010	Date:	2022-10-17
Customer:	Abbott Laboratories	Temperature:	22.1°C
Attendees:	Frank Sun	Relative Humidity:	51.2%
Customer Project:	None	Bar. Pressure (PMSL):	1019 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0181-4

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2022	ANSI C63.10:2013

TEST PARAMETERS

Run #:	16	Test Distance (m):	10	Ant. Height(s) (m):	1(m)

COMMENTS

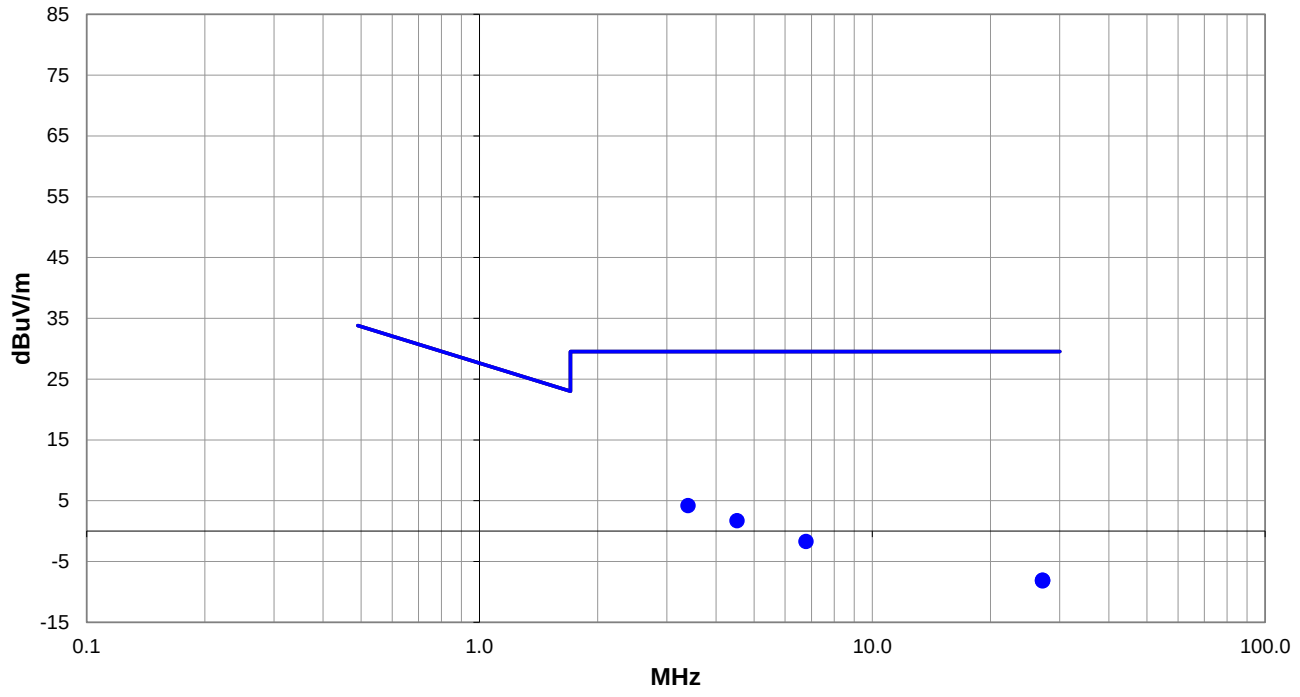
Four PCB; AccessPoint (1 radio), ConvergentSwitch (1 radio), DivergentSwitch (2 radios), CrossSwitch (2 radios). All radios ON.

EUT OPERATING MODES

Transmitting 13.56 MHz RFID

DEVIATIONS FROM TEST STANDARD

None



Run #: 16 ■ PK ◆ AV ● QP

FIELD STRENGTH OF SPURIOUS EMISSIONS (LESS THEN 30 MHz)

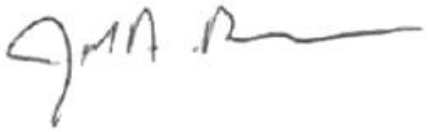
element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

RESULTS - Run #16

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
3.395	11.9	11.4	1.0	195.0	10.0	0.0	Perp to EUT	QP	-19.1	4.2	29.5	-25.3	ALL radios ON
4.524	9.3	11.5	1.0	69.0	10.0	0.0	Perp to EUT	QP	-19.1	1.7	29.5	-27.8	ALL radios ON
6.783	6.0	11.4	1.0	303.9	10.0	0.0	Perp to EUT	QP	-19.1	-1.7	29.5	-31.2	ALL radios ON
27.124	1.2	9.8	1.0	90.0	10.0	0.0	Perp to EUT	QP	-19.1	-8.1	29.5	-37.6	ALL radios ON
27.118	1.2	9.8	1.0	208.9	10.0	0.0	Para to EUT	QP	-19.1	-8.1	29.5	-37.6	ALL radios ON
27.119	1.1	9.8	1.0	285.0	10.0	0.0	Para to GND	QP	-19.1	-8.2	29.5	-37.7	ALL radios ON

CONCLUSION

Pass



Tested By

FIELD STRENGTH OF SPURIOUS EMISSIONS (GREATER THAN 30 MHz)

element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

TEST DESCRIPTION

The antennas to be used with the EUT were tested. The EUT was transmitting while set at the operating channel.

For each configuration, the spectrum was scanned throughout the specified range as part of the exploratory investigation of the emissions. These “pre-scans” are not included in the report. Final measurements on individual emissions were then made and included in this test report.

The individual emissions from the EUT were maximized by rotating the EUT on a turntable and adjusting the measurement antenna height and polarization (per ANSI C63.10). A preamp and high pass filter (and notch filter) were used for this test in order to provide sufficient measurement sensitivity.

Measurements were made with the required detectors and annotated on the data for each individual point using the following annotation:

QP = Quasi-Peak Detector

Measurements were made to satisfy the specific requirements of the test specification for out of band emissions as well as the restricted band requirements.

If there are no detectable emissions above the noise floor, the data included may show noise floor measurements for reference only.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Antenna - Biconilog	ETS Lindgren	3143B	AYF	2022-09-02	2024-09-02
Cable	Northwest EMC	RE 9kHz - 1GHz	TXB	2022-06-10	2023-06-10
Amplifier - Pre-Amplifier	Fairview Microwave	FMAM63001	PAS	2022-04-19	2023-04-19
Filter - Low Pass	Micro-Tronics	LPM50004	HHV	2022-07-22	2023-07-22
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFQ	2022-01-17	2023-01-17

MEASUREMENT UNCERTAINTY

Description		
Expanded k=2	4.6 dB	-4.6 dB

FREQUENCY RANGE INVESTIGATED

30 MHz TO 18000 MHz

POWER INVESTIGATED

220VAC/60Hz

CONFIGURATIONS INVESTIGATED

ABBO0182-4

MODES INVESTIGATED

Transmitting 13.56 MHz RFID

FIELD STRENGTH OF SPURIOUS EMISSIONS (GREATER THAN 30 MHz)

element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

EUT:	GLP12409 SAL Alinity c End Section	Work Order:	ABBO0182
Serial Number:	SAL12408000028	Date:	2022-10-18
Customer:	Abbott Laboratories	Temperature:	22°C
Attendees:	Frank Sun	Relative Humidity:	29.7%
Customer Project:	None	Bar. Pressure (PMSL):	1030 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0182-4

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2022	ANSI C63.10:2013

TEST PARAMETERS

Run #:	35	Test Distance (m):	3	Ant. Height(s) (m):	1 to 4(m)

COMMENTS

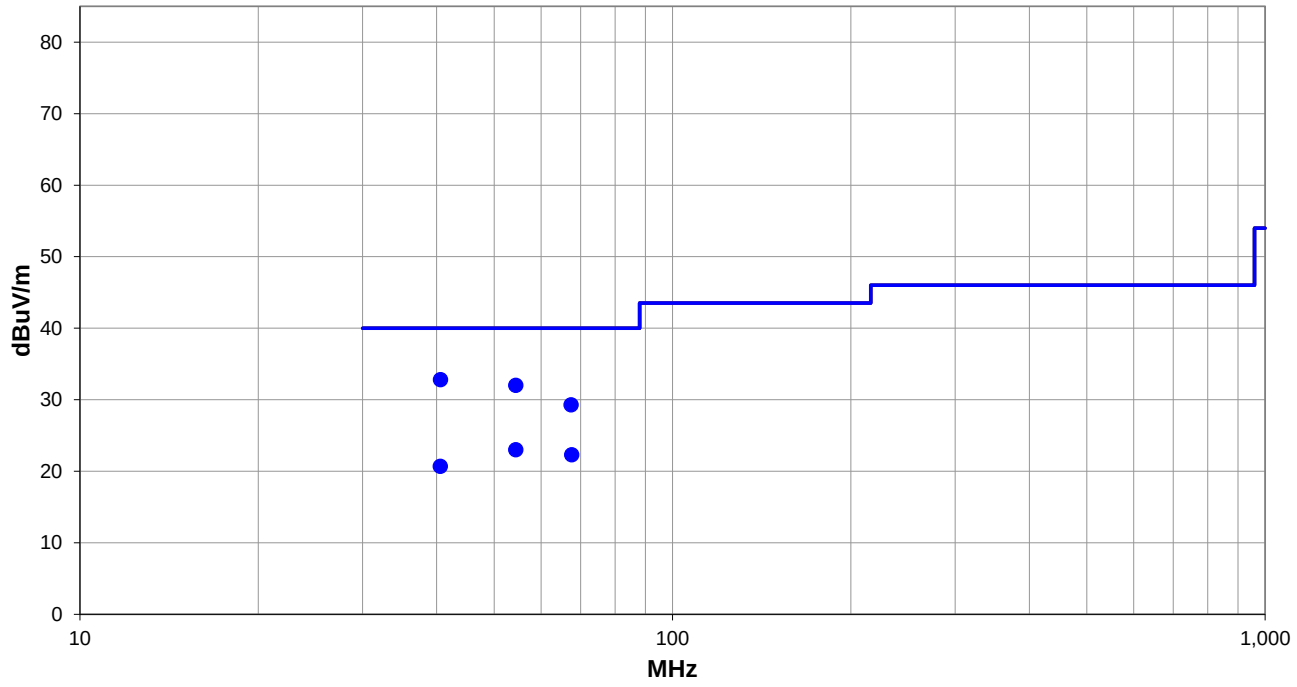
Four PCBs; AccessPoint (1 radio), CrossSwitch (2 radios), ConvergentSwitch (2 radios) DivergentSwitch (1 radio). ALL radios ON.

EUT OPERATING MODES

Transmitting 13.56 MHz RFID

DEVIATIONS FROM TEST STANDARD

None



Run #: 35 ■ PK ◆ AV ● QP

FIELD STRENGTH OF SPURIOUS EMISSIONS (GREATER THAN 30 MHz)

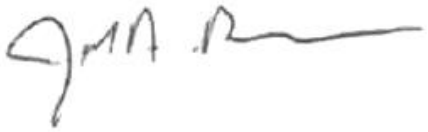
element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

RESULTS - Run #35

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
40.577	55.3	-22.5	1.0	264.0	3.0	0.0	Vert	QP	0.0	32.8	40.0	-7.2
54.404	58.7	-26.7	1.0	193.0	3.0	0.0	Vert	QP	0.0	32.0	40.0	-8.0
67.407	55.2	-25.9	1.0	44.0	3.0	0.0	Vert	QP	0.0	29.3	40.0	-10.7
54.391	49.7	-26.7	3.52	193.0	3.0	0.0	Horz	QP	0.0	23.0	40.0	-17.0
67.600	48.2	-25.9	3.15	75.0	3.0	0.0	Horz	QP	0.0	22.3	40.0	-17.7
40.563	43.2	-22.5	3.35	70.9	3.0	0.0	Horz	QP	0.0	20.7	40.0	-19.3

CONCLUSION

Pass



Tested By

FIELD STRENGTH OF SPURIOUS EMISSIONS (GREATER THAN 30 MHz)

element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

TEST DESCRIPTION

The antennas to be used with the EUT were tested. The EUT was transmitting while set at the operating channel.

For each configuration, the spectrum was scanned throughout the specified range as part of the exploratory investigation of the emissions. These “pre-scans” are not included in the report. Final measurements on individual emissions were then made and included in this test report.

The individual emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and EUT antenna in three orthogonal axis, and adjusting the measurement antenna height and polarization (per ANSI C63.10). A preamp and high pass filter (and notch filter) were used for this test in order to provide sufficient measurement sensitivity.

Measurements were made with the required detectors and annotated on the data for each individual point using the following annotation:

QP = Quasi-Peak Detector

Measurements were made to satisfy the specific requirements of the test specification for out of band emissions as well as the restricted band requirements.

If there are no detectable emissions above the noise floor, the data included may show noise floor measurements for reference only.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Receiver	Rohde & Schwarz	ESR26	ARQ	2022-05-02	2023-05-02
Filter - Low Pass	Micro-Tronics	LPM50004	HHV	2022-07-22	2023-07-22
Amplifier - Pre-Amplifier	Fairview Microwave	FMAM63001	PAS	2022-04-19	2023-04-19
Cable	Northwest EMC	RE 9kHz - 1GHz	TXB	2022-06-10	2023-06-10
Antenna - Biconilog	ETS Lindgren	3143B	AYF	2022-09-02	2024-09-02

MEASUREMENT UNCERTAINTY

Description		
Expanded k=2	4.6 dB	-4.6 dB

FREQUENCY RANGE INVESTIGATED

30 MHz TO 18000 MHz

POWER INVESTIGATED

220VAC/60Hz

CONFIGURATIONS INVESTIGATED

ABBO0181-4

MODES INVESTIGATED

Transmitting 13.56 MHz RFID

FIELD STRENGTH OF SPURIOUS EMISSIONS (GREATER THAN 30 MHz)

element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

EUT:	GLP12411 SAL Alinity i End Section	Work Order:	ABBO0181
Serial Number:	SAL12409000010	Date:	2022-10-17
Customer:	Abbott Laboratories	Temperature:	22.1°C
Attendees:	Frank Sun	Relative Humidity:	51.2%
Customer Project:	None	Bar. Pressure (PMSL):	1019 mb
Tested By:	Jarrod Brenden	Job Site:	TX02
Power:	220VAC/60Hz	Configuration:	ABBO0181-4

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.225:2022	ANSI C63.10:2013

TEST PARAMETERS

Run #:	18	Test Distance (m):	3	Ant. Height(s) (m):	1 to 4(m)

COMMENTS

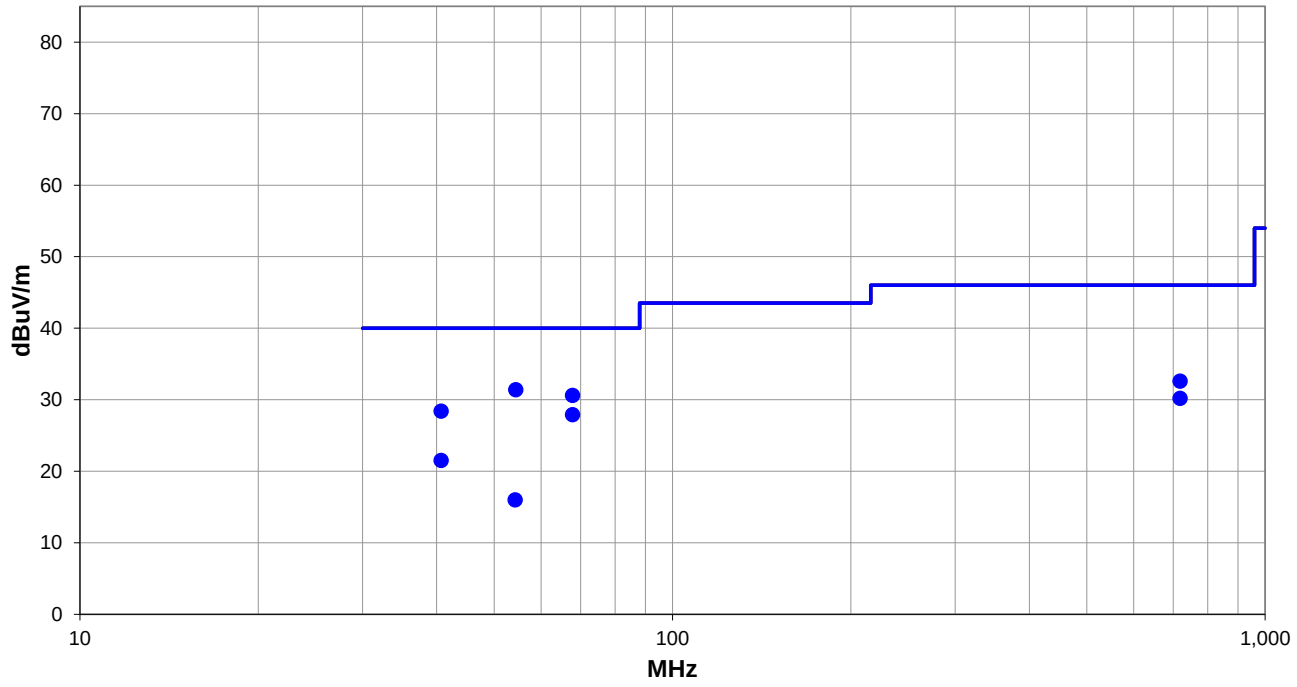
Four PCB; AccessPoint (1 radio), ConvergentSwitch (1 radio), DivergentSwitch (2 radios), CrossSwitch (2 radios). All radios ON.

EUT OPERATING MODES

Transmitting 13.56 MHz RFID

DEVIATIONS FROM TEST STANDARD

None



Run #: 18 ■ PK ◆ AV ● QP

FIELD STRENGTH OF SPURIOUS EMISSIONS (GREATER THAN 30 MHz)

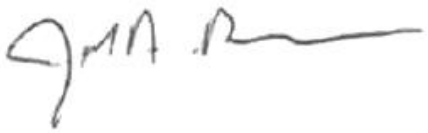
element
WTD.2022.07.28.0
EmiR5 2022.07.06.0
PSA-ESCI 2022.08.23.0

RESULTS - Run #18

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
54.384	58.1	-26.7	1.0	192.0	3.0	0.0	Vert	QP	0.0	31.4	40.0	-8.6
67.834	56.5	-25.9	1.0	81.9	3.0	0.0	Vert	QP	0.0	30.6	40.0	-9.4
40.705	50.9	-22.5	1.04	142.9	3.0	0.0	Vert	QP	0.0	28.4	40.0	-11.6
67.827	53.8	-25.9	2.4	200.0	3.0	0.0	Horz	QP	0.0	27.9	40.0	-12.1
718.715	38.3	-5.7	1.23	198.0	3.0	0.0	Vert	QP	0.0	32.6	46.0	-13.4
718.704	35.9	-5.7	1.67	213.9	3.0	0.0	Horz	QP	0.0	30.2	46.0	-15.8
40.702	44.0	-22.5	3.25	200.0	3.0	0.0	Horz	QP	0.0	21.5	40.0	-18.5
54.268	42.7	-26.7	3.92	160.9	3.0	0.0	Horz	QP	0.0	16.0	40.0	-24.0

CONCLUSION

Pass



Tested By