

Test Report No.50096216 001

Appendix D: Radiated and Mains Spurious Emission Data

(File: 50096216AppendixD)

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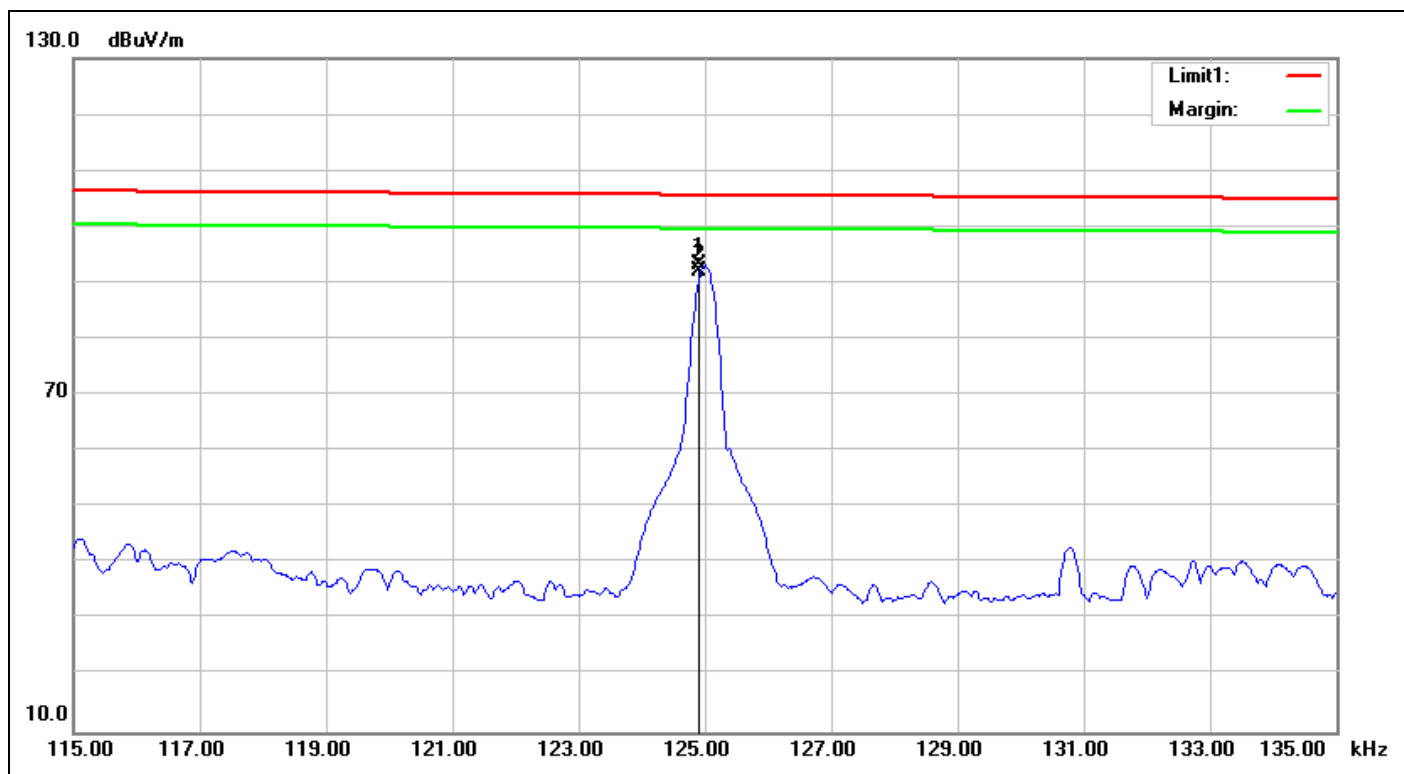
Emissions, Fundamental



TUV Rheinland Taiwan Ltd.

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Service No.:	114067578-22(ASSY AD46R RF+MD+RFID)	Test Distance:	3m
Test Standard:	FCC15.209_9k-1G_3m	Ant. Polarization:	
Test item:	Radiation Emission	Test Time:	2017/8/2 10:21:33
Applicant:	Nedap	Test Rating:	AC 120V/60Hz
Product:	Lumen iL45	Temp.(°C)/Hum.(%)	22(°C)/49%
Model No.:	ASSY AD46R RF+MD+RFID	Test Engineer:	Kai Wang
Test Mode:	125k-Tx		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.1250	19.11	74.06	93.17	125.66	-32.49	peak	100	245	MD-Tx Fundamental
2	0.1250	19.11	72.97	92.08	105.66	-13.58	AVG	100	245	

Emissions, Fundamental

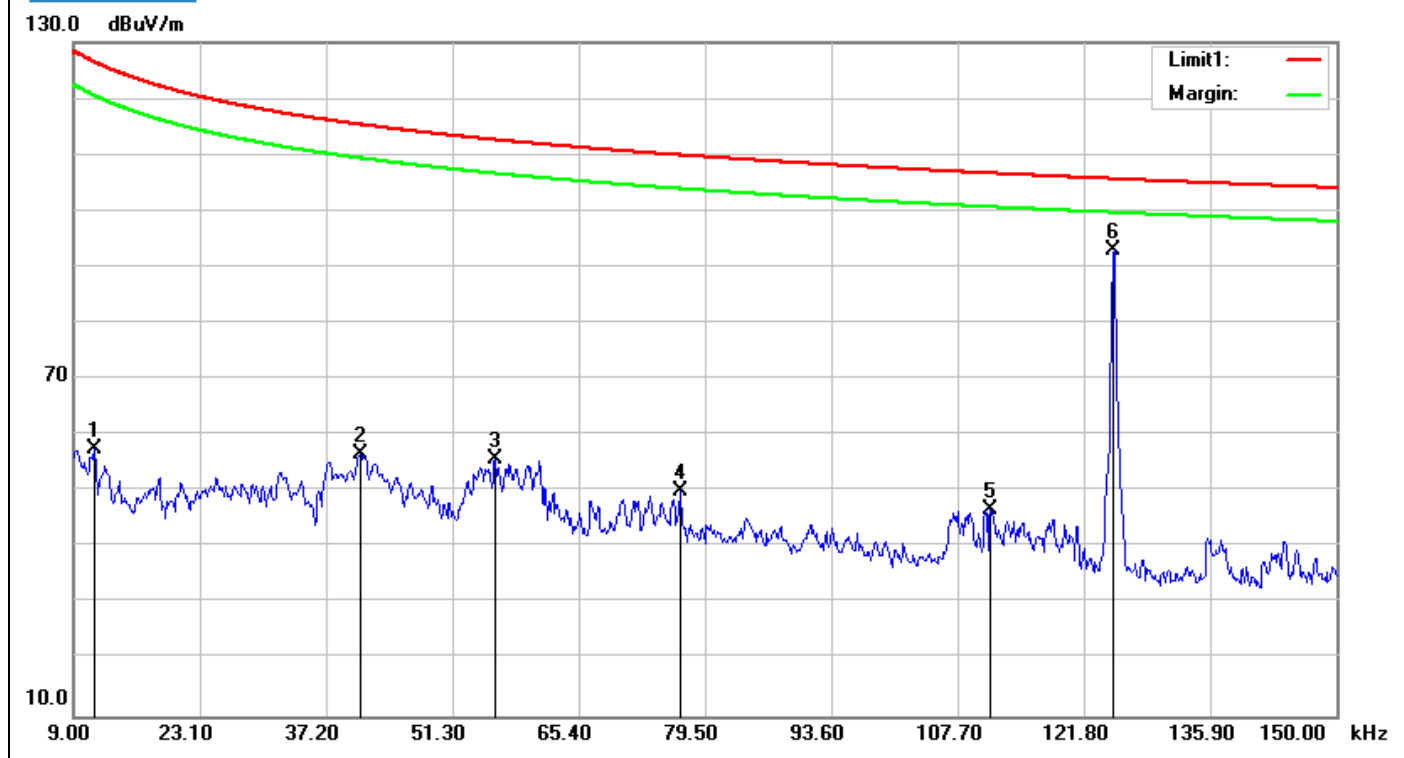
Spurious Emissions, TX Mode, 9-150 kHz



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Service No.:	114067578-22(ASSY AD46R RF+MD+RFID)	Test Distance:	3m
Test Standard:	FCC15.209_9k-1G_3m	Ant. Polarization:	
Test item:	Radiation Emission	Test Time:	2017/8/2 09:54:27
Applicant:	Nedap	Test Rating:	AC 120V/60Hz
Product:	Lumen iL45	Temp.(°C)/Hum.(%)	22(°C)/49%
Model No.:	ASSY AD46R RF+MD+RFID	Test Engineer:	Kai Wang
Test Mode:	125k-Tx		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.0113	19.94	37.70	57.64	126.52	-68.88	QP	100	137	
2	0.0410	19.75	36.82	56.57	115.34	-58.77	QP	100	329	
3	0.0561	19.39	36.38	55.77	112.61	-56.84	QP	100	102	
4	0.0767	19.27	30.68	49.95	109.90	-59.95	QP	100	152	
5	0.1114	19.12	27.73	46.85	106.66	-59.81	QP	100	224	
6	0.1250	19.11	73.88	92.99	105.66	-12.67	QP	100	245	Tx

Spurious Emissions, TX Mode 9-150 kHz

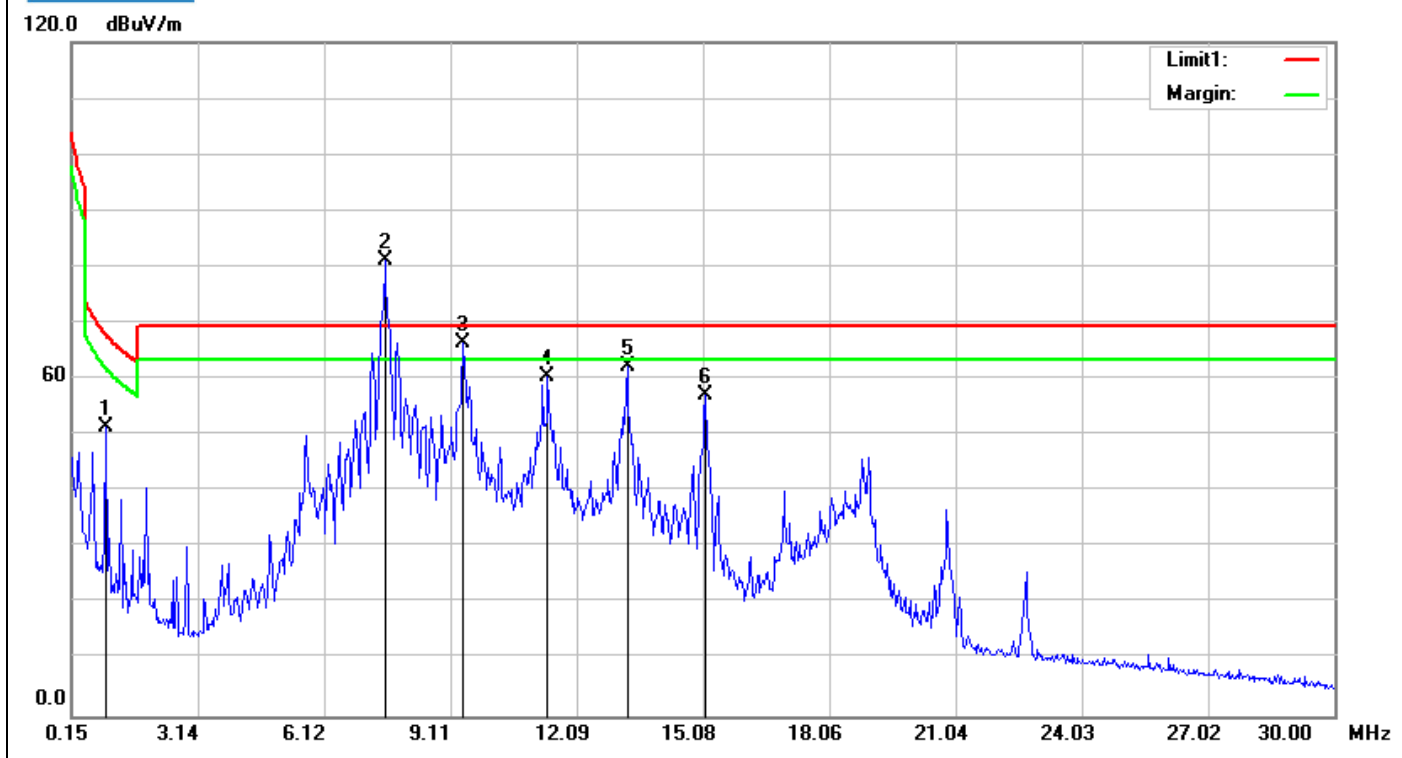
Spurious Emissions, TX Mode, 150 kHz -30MHz



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Service No.: 114067578-22(ASSY AD46R

Test Distance: 3m

RF+MD+RFID)

Test Standard: FCC15.209_9k-1G_3m

Ant. Polarization:

Test item: Radiation Emission

Test Time: 2017/8/2 09:58:43

Applicant: Nedap

Test Rating: AC 120V/60Hz

Product: Lumen iL45

Temp.(°C)/Hum.(%): 22(°C)/49%

Model No.: ASSY AD46R RF+MD+RFID

Test Engineer: Kai Wang

Test Mode: 125k-Tx

Remark:

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.9560	18.97	32.63	51.60	68.01	-16.41	QP	100	184	
2	7.5650	20.00	61.19	81.19	N/A	N/A	N/A	N/A	N/A	TX 7-8 MHz
3	9.4035	20.16	46.20	66.36	69.50	-3.14	QP	100	139	
4	11.4035	20.47	40.05	60.52	69.50	-8.98	QP	100	204	
5	13.2840	20.80	41.51	62.31	69.50	-7.19	QP	100	165	
6	15.1347	21.12	36.11	57.23	69.50	-12.27	QP	100	317	

Spurious Emissions, TX Mode 150 kHz -30MHz

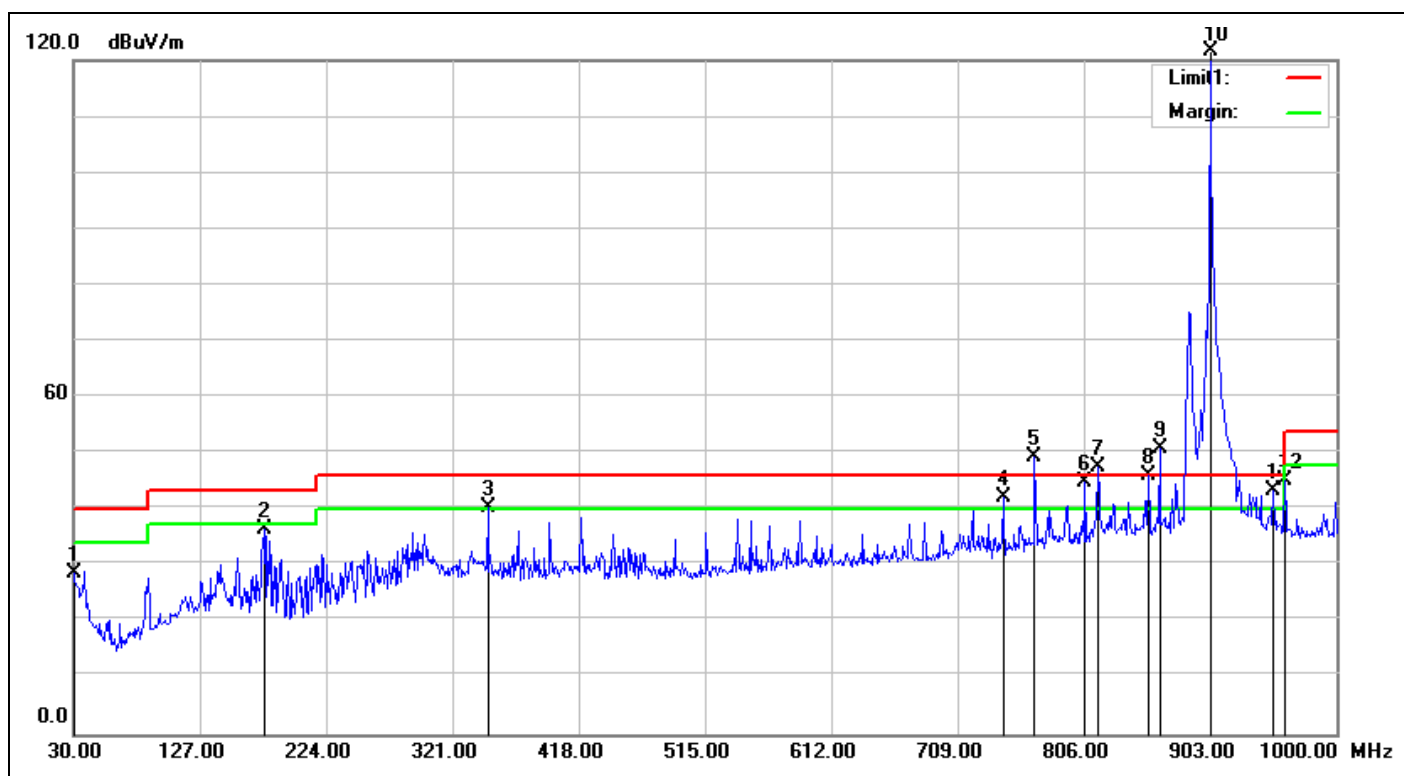
Spurious Emissions, TX Mode, 30MHz-1GHz



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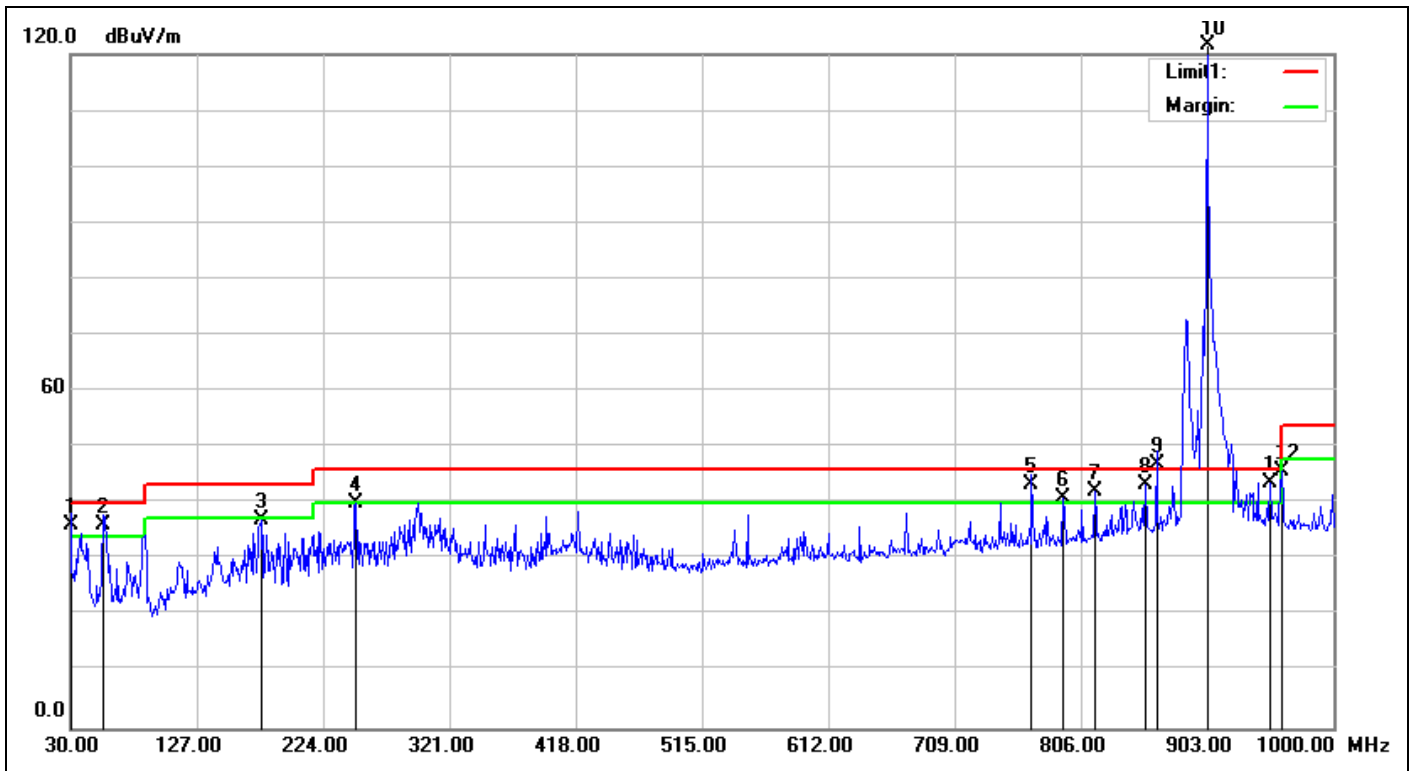


Service No.:	114067578-22(ASSY AD46R RF+MD+RFID)	Test Distance:	3m
Test Standard:	FCC Class B 3M Radiation	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/8/2 11:16:46
Applicant:	Nedap	Test Rating:	AC 120V/60Hz
Product:	Lumen iL45	Temp.(°C)/Hum.(%)	22(°C)/49%
Model No.:	ASSY AD46R RF+MD+RFID	Test Engineer:	Kai Wang
Test Mode:	125k-Tx		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	30.0000	-0.08	28.68	28.60	40.00	-11.40	QP	200	219	
2	176.4700	-9.44	46.02	36.58	43.50	-6.92	QP	300	72	
3	348.1600	-3.47	43.83	40.36	46.00	-5.64	QP	100	258	
4	743.9200	2.21	40.07	42.28	46.00	-3.72	QP	100	251	

Spurious Emissions, TX Mode, 30M-1GHz

5	768.1700	2.55	46.88	49.43	101.74	<-20	QP	100	235	
6	806.9700	2.99	41.81	44.80	46.00	-1.20	QP	100	237	
7	816.6700	3.15	44.54	47.69	101.74	<-20	QP	100	134	
8	855.4700	3.76	42.30	46.06	101.74	<-20	QP	100	101	
9	864.2000	3.85	47.09	50.94	101.74	<-20	QP	100	104	
10	903.0000	4.24	117.50	121.74	N/A	N/A	N/A	N/A	N/A	Tx RFID
11	951.5000	5.39	37.98	43.37	46.00	-2.63	QP	200	238	
12	960.2300	5.46	39.70	45.16	54.00	-8.84	QP	300	266	



Service No.: 114067578-22(ASSY AD46R
RF+MD+RFID)

Test Distance: 3m

Test Standard: FCC Class B 3M Radiation

Ant. Polarization: Vertical

Test item: Radiation Emission

Test Time: 2017/8/2 11:20:22

Applicant: Nedap

Test Rating: AC 120V/60Hz

Product: Lumen iL45

Temp.(°C)/Hum.(%): 22(°C)/49%

Model No.: ASSY AD46R RF+MD+RFID

Test Engineer: Kai Wang

Test Mode: 125k-Tx

Remark:

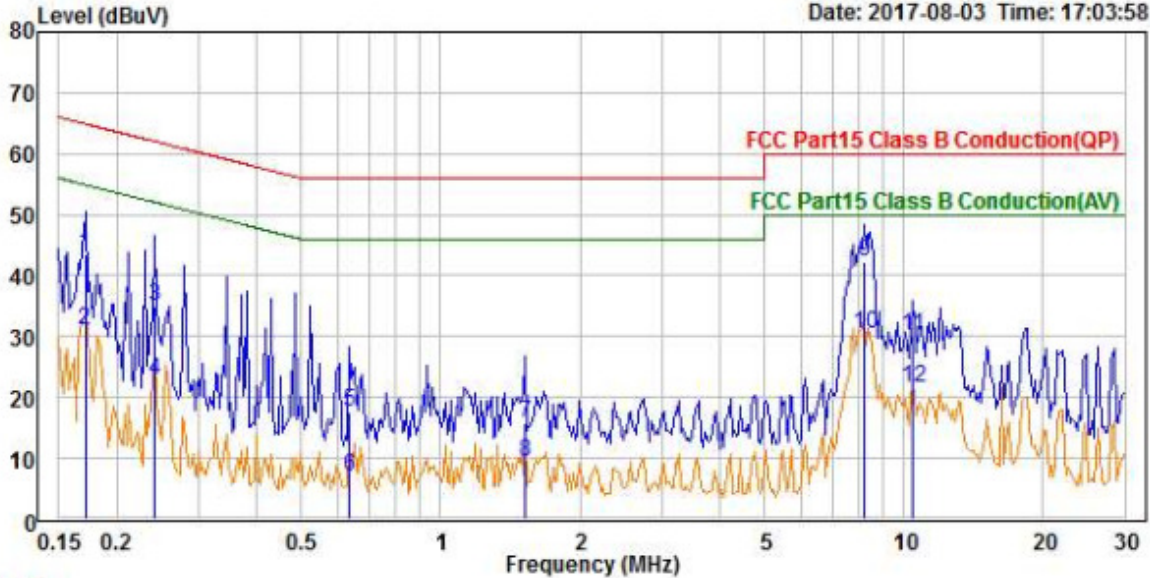
No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	30.0000	-0.08	36.22	36.14	40.00	-3.86	QP	100	349	
2	55.2200	-12.51	48.53	36.02	40.00	-3.98	QP	100	306	
3	176.4700	-9.44	46.50	37.06	43.50	-6.44	QP	100	218	
4	249.2200	-5.85	45.89	40.04	46.00	-5.96	QP	100	112	
5	768.1700	2.55	40.69	43.24	46.00	-2.76	QP	200	56	
6	792.4200	2.78	38.04	40.82	46.00	-5.18	QP	100	67	
7	816.6700	3.15	38.97	42.12	46.00	-3.88	QP	100	32	

8	855.4700	3.76	39.70	43.46	46.00	-2.54	QP	200	43	
9	864.2000	3.85	43.25	47.10	101.67	<-20	QP	100	40	
10	903.0000	4.24	117.43	121.67	N/A	N/A	N/A	N/A	N/A	Tx
11	951.5000	5.39	38.25	43.64	46.00	-2.36	QP	100	112	
12	960.2300	5.46	40.25	45.71	54.00	-8.29	QP	100	61	

Mains Spurious Emissions

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Date: 2017-08-03 Time: 17:03:58

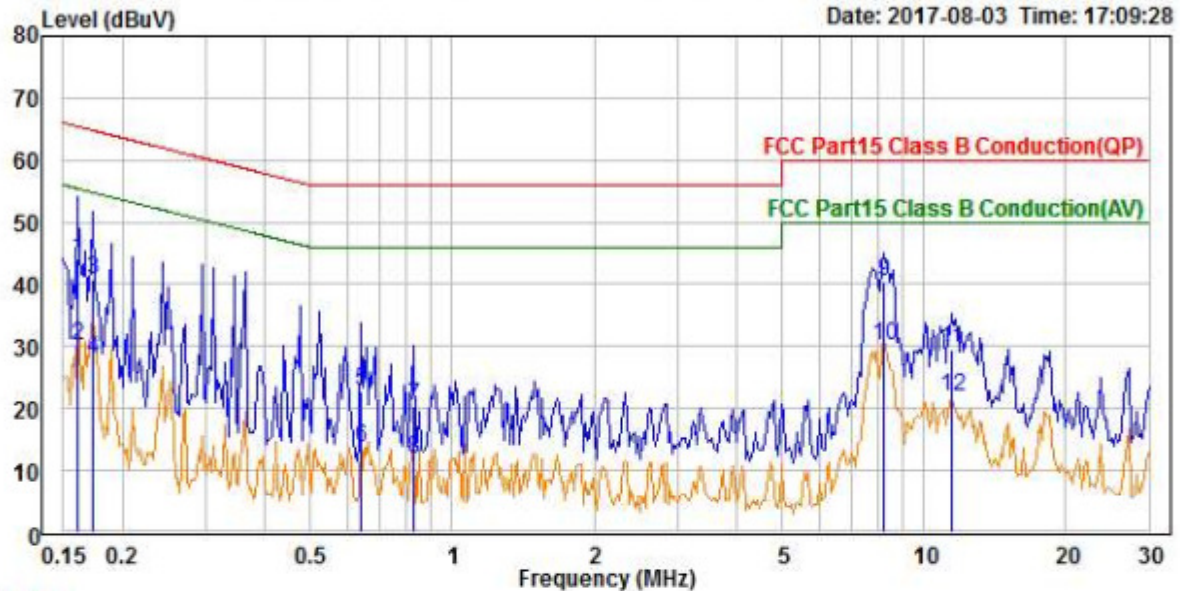


Trace: 1

Site : Conduction room
Condition : FCC Part15 Class B Conduction(QP) line1
Test Engineer: Kai Wang
Applicant : Nedap
Product : ASSY AD46R RF+MD+RFID
Model No. : Lumen iL45
Test Rating : 120Vac/60Hz
Tmp/Hum : 22.1 °C / 42 %
Memo : AC Mains

	Freq	Level	Read Level	LISN Factor	Cable Loss	Factor	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV	dB	dB	dB	dBuV	dB	
1	0.171	43.56	33.90	9.64	0.02	9.66	64.93	-21.37	QP
2	0.171	30.98	21.32	9.64	0.02	9.66	54.93	-23.95	Average
3	0.242	34.86	25.20	9.64	0.02	9.66	62.04	-27.18	QP
4	0.242	22.78	13.12	9.64	0.02	9.66	52.04	-29.26	Average
5	0.634	17.66	8.00	9.64	0.02	9.66	56.00	-38.34	QP
6	0.634	7.13	-2.53	9.64	0.02	9.66	46.00	-38.87	Average
7	1.520	15.75	6.06	9.65	0.04	9.69	56.00	-40.25	QP
8	1.520	9.38	-0.31	9.65	0.04	9.69	46.00	-36.62	Average
9	8.239	42.21	32.44	9.70	0.07	9.77	60.00	-17.79	QP
10	8.239	30.40	20.63	9.70	0.07	9.77	50.00	-19.60	Average
11	10.459	30.19	20.40	9.71	0.08	9.79	60.00	-29.81	QP
12	10.459	21.51	11.72	9.71	0.08	9.79	50.00	-28.49	Average

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Trace: 1

Site : Conduction room
Condition : FCC Part15 Class B Conduction(QP) neutral
Test Engineer: Kai Wang
Applicant : Nedap
Product : ASSY AD46R RF+MD+RFID
Model No. : Lumen iL45
Test Rating : 120Vac/60Hz
Tmp/Hum : 22.1 °C / 42 %
Memo : AC Mains

	Freq	Level	Read Level	LISN Factor	Cable Loss	Factor	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV	dB	dB	dB	dBuV	dB	
1	0.161	44.10	34.43	9.65	0.02	9.67	65.42	-21.32	QP
2	0.161	30.21	20.54	9.65	0.02	9.67	55.42	-25.21	Average
3	0.172	40.78	31.11	9.65	0.02	9.67	64.84	-24.06	QP
4	0.172	28.09	18.42	9.65	0.02	9.67	54.84	-26.75	Average
5	0.640	22.74	13.07	9.65	0.02	9.67	56.00	-33.26	QP
6	0.640	13.61	3.94	9.65	0.02	9.67	46.00	-32.39	Average
7	0.829	20.37	10.70	9.65	0.02	9.67	56.00	-35.63	QP
8	0.829	11.92	2.25	9.65	0.02	9.67	46.00	-34.08	Average
9	8.239	40.45	30.66	9.72	0.07	9.79	60.00	-19.55	QP
10	8.239	30.16	20.37	9.72	0.07	9.79	50.00	-19.84	Average
11	11.438	29.42	19.59	9.74	0.09	9.83	60.00	-30.58	QP
12	11.438	21.94	12.11	9.74	0.09	9.83	50.00	-28.06	Average