

Test Report No.50096220 001

Appendix D: Radiated and Mains Spurious Emission Data

(File: 50096220AppendixD)

Contents

Emissions, Fundamental.....	2
Spurious Emissions, TX Mode, 9-150 kHz.....	3
Spurious Emissions, TX Mode, 150 kHz -30MHz.....	4
Spurious Emissions, TX Mode, 30MHz-1GHz.....	5
Spurious Emissions, Mains, 150kHz - 30MHz	9

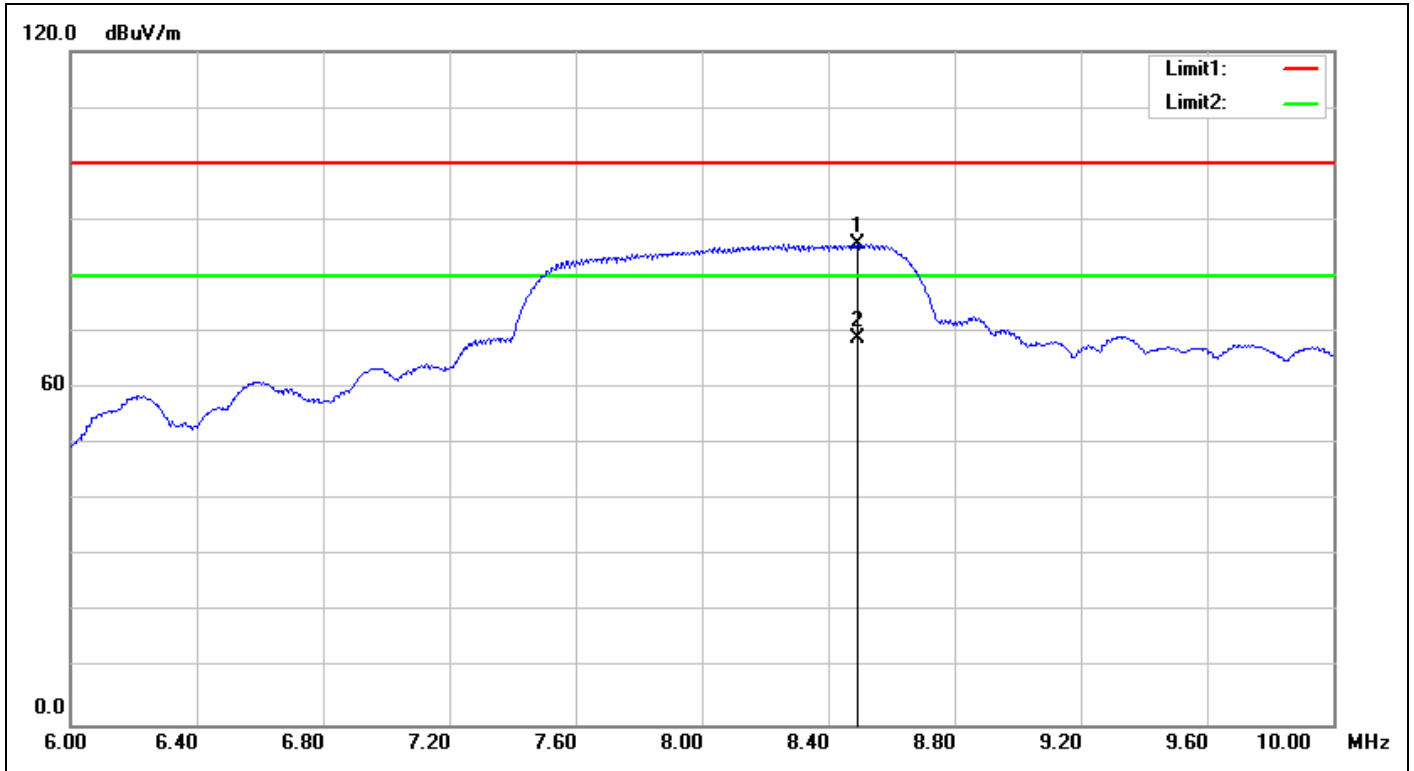
Emissions, Fundamental



TUV Rheinland Taiwan Ltd.

11F., No.758, Sec.4 Bade Road, Songshan Dist, Taipei City 105

Tel:+886-2172-7000 fax:+886-2528-0018



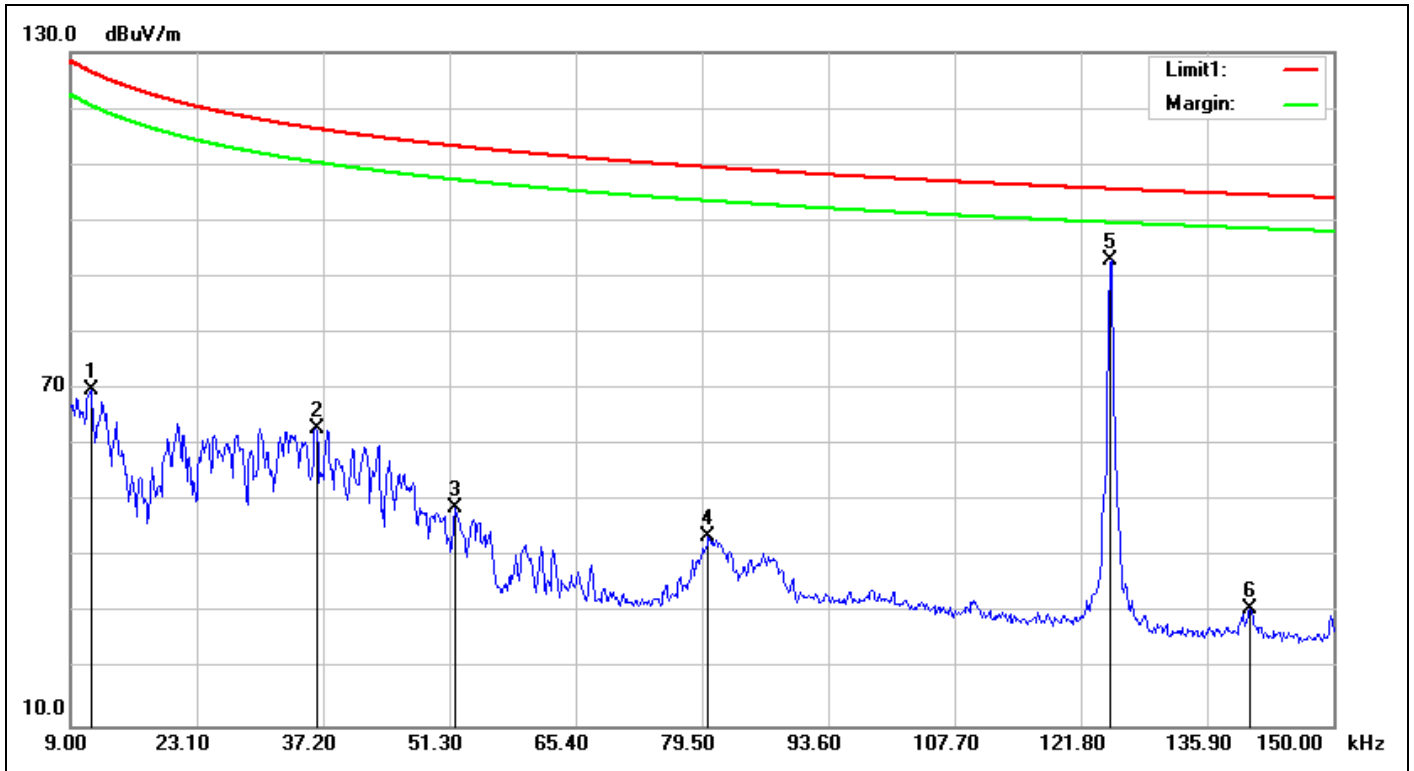
Service No.:	114067578-22(ASSY AD46R RF+MD+RFID)	Test Distance:	3m
Test Standard:	FCC 15.223_Fundmtal_PK_3m(dBuV/m)	Ant. Polarization:	
Test item:	Radiation Emission	Test Time:	2017/8/2 16:49:18
Applicant:	Nedap	Test Rating:	AC 120V/60Hz
Product:	Lumen iL45	Temp.(°C)/Hum.(%):	22(°C)/49%
Model No.:	ASSY AD46R RF+MD+RFID	Test Engineer:	Kai Wang
Test Mode:	7565k~8571.25k-Tx		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	8.4920	20.08	65.52	85.60	100.00	-14.40	peak	100	138	Tx
2	8.4920	20.08	48.82	68.90	80.00	-11.10	AVG	100	138	

Spurious Emissions, TX Mode, 9-150 kHz



TUV Rheinland Taiwan Ltd.
 11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105
 Tel:+886-2172-7000 fax:+886-2528-0018



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 15:54:38
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:	7565k~8571.25k-Tx		
Remark:			

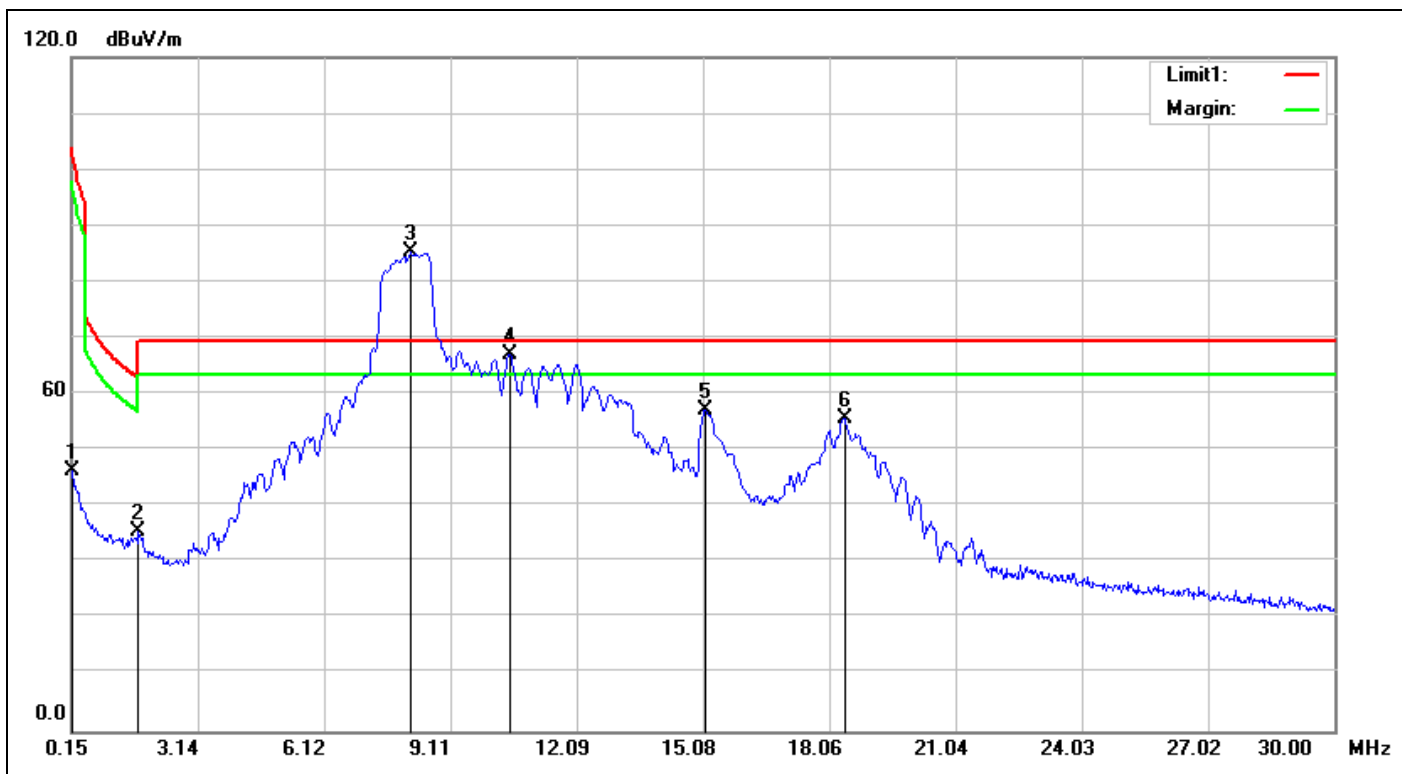
No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.0113	19.94	50.01	69.95	126.52	-56.57	QP	100	240	
2	0.0364	19.91	43.10	63.01	116.37	-53.36	QP	100	155	
3	0.0519	19.42	29.34	48.76	113.29	-64.53	QP	100	157	
4	0.0802	19.25	24.48	43.73	109.51	-65.78	QP	100	83	
5	0.1250	19.11	73.97	93.08	105.66	-12.58	QP	100	245	Tx
6	0.1407	19.09	11.66	30.75	104.63	-73.88	QP	100	35	

Spurious Emissions, TX Mode 9-150 kHz

Spurious Emissions, TX Mode, 150 kHz -30MHz



TUV Rheinland Taiwan Ltd.
 11F., No.758, Sec.4 Bade Road, Songshan Dist, Taipei City 105
 Tel:+886-2172-7000 fax:+886-2528-0018



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 15:57:21
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:	7565k~8571.25k-Tx		
Remark:			

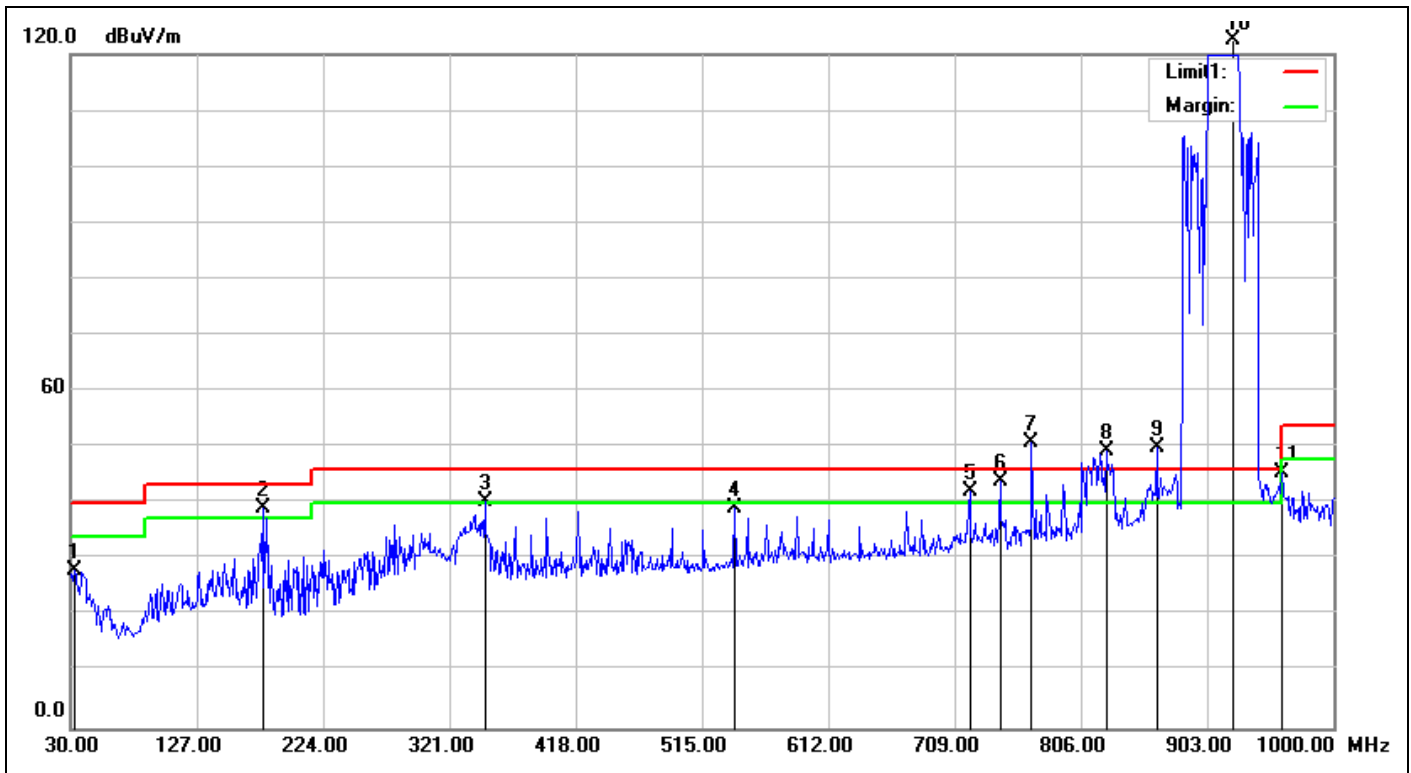
No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.1500	19.08	27.40	46.48	104.08	-57.60	QP	100	206	
2	1.7321	18.81	16.75	35.56	69.50	-33.94	QP	100	84	
3	8.1797	20.05	65.20	N/A	N/A	N/A	N/A	N/A	N/A	Tx
4	10.5079	20.31	46.70	67.01	69.50	-2.49	QP	100	195	
5	15.1347	21.12	36.04	57.16	69.50	-12.34	QP	100	215	
6	18.4182	21.70	34.07	55.77	69.50	-13.73	QP	100	319	

Spurious Emissions, TX Mode 150 kHz -30MHz

Spurious Emissions, TX Mode, 30MHz-1GHz



TUV Rheinland Taiwan Ltd.
 11F., No.758, Sec.4 Bade Road, Songshan Dist, Taipei City 105
 Tel:+886-2172-7000 fax:+886-2528-0018

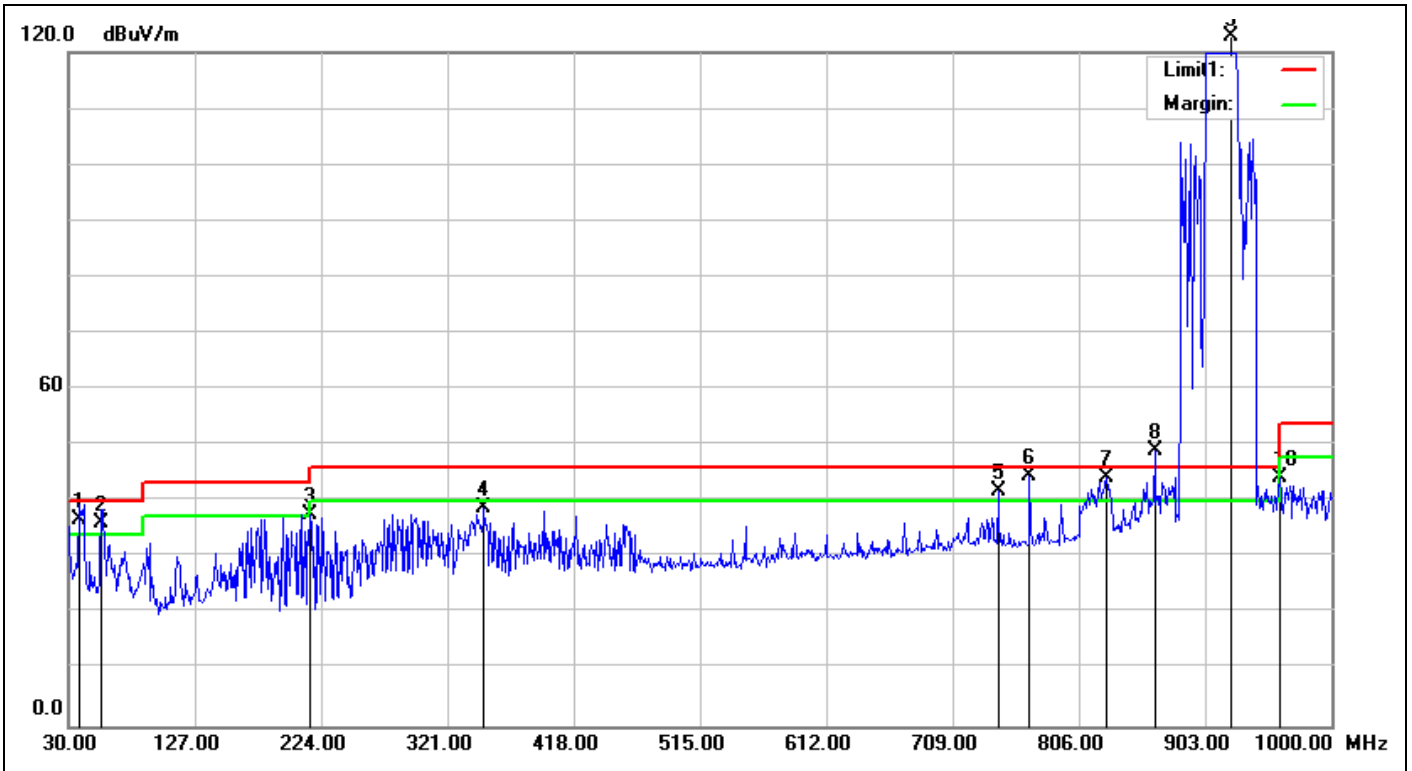


Service No.:	114067578-22(ASSY AD46R RF+MD+RFID)	Test Distance:	3m
Test Standard:	FCC Class B 3M Radiation	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/8/2 16:29:56
Applicant:	Nedap	Test Rating:	AC 120V/60Hz
Product:	Lumen iL45	Temp.(°C)/Hum.(%):	22(°C)/49%
Model No.:	ASSY AD46R RF+MD+RFID	Test Engineer:	Kai Wang
Test Mode:	7565k~8571.25k-Tx		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	32.9099	-1.74	29.75	28.01	40.00	-11.99	QP	200	235	
2	178.4100	-9.56	48.77	39.21	43.50	-4.29	QP	300	96	
3	348.1600	-3.47	43.93	40.46	46.00	-5.54	QP	100	232	
4	540.2200	-0.88	39.91	39.03	46.00	-6.97	QP	100	296	
5	720.6400	1.61	40.50	42.11	46.00	-3.89	QP	100	336	
6	743.9200	2.21	41.71	43.92	46.00	-2.08	QP	100	346	
7	768.1700	2.55	48.29	50.84	102.54	<-20	QP	100	216	

Spurious Emissions, TX Mode, 30M-1GHz

8	825.4000	3.30	45.96	49.26	102.54	<-20	QP	100	131	
9	864.2000	3.85	46.05	49.90	102.54	<-20	QP	300	282	
10	923.3700	4.74	117.80	122.54	N/A	N/A	N/A	N/A	N/A	RFID-Tx
11	960.2300	5.46	39.92	45.38	102.54	<-20	QP	300	263	



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 16:33:32
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:	7565k~8571.25k-Tx		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	37.7600	-4.50	41.40	36.90	40.00	-3.10	QP	100	341	
2	55.2200	-12.51	48.81	36.30	40.00	-3.70	QP	100	259	
3	215.2700	-8.44	46.14	37.70	43.50	-5.80	QP	100	197	
4	349.1300	-3.44	42.25	38.81	46.00	-7.19	QP	100	43	
5	743.9200	2.21	39.66	41.87	46.00	-4.13	QP	200	240	
6	768.1700	2.55	42.05	44.60	46.00	-1.40	QP	200	66	
7	827.3400	3.32	40.83	44.15	46.00	-1.85	QP	200	56	

8	864.2000	3.85	45.17	49.02	102.93	<-20	QP	200	37	
9	922.4000	4.72	118.21	122.93	N/A	N/A	N/A	N/A	N/A	RFID-Tx
10	960.2300	5.46	38.93	44.39	54.00	-9.61	QP	100	145	

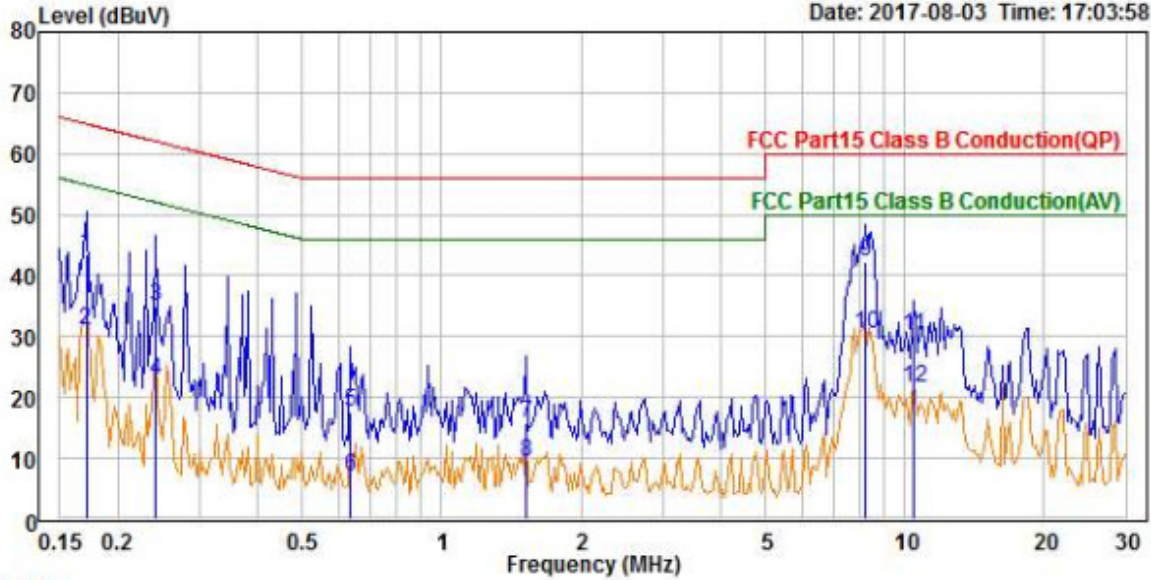
Mains Spurious Emissions



TUV Rheinland Taiwan Ltd.
 11F., No.758, Sec.4 Bade Road, Songshan Dist, Taipei City 105
 Tel:+886-2172-7000 Fax:+886-2528-0018

File: C:\EMC\Report\2017\Nedap\114067578-22(ASSY AD46R RF+MD+RFID)\114067578-22(ASSY AD46R RF+M

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



Trace: 1

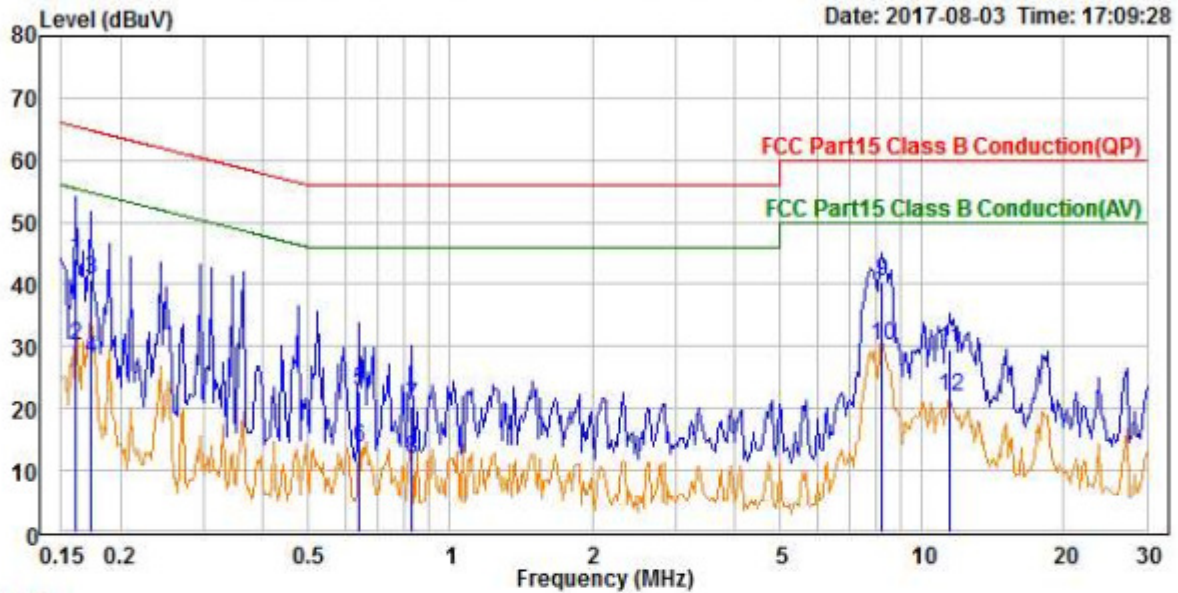
Site : Conduction room
 Condition : FCC Part15 Class B Conduction(QP) line1
 Test Engineer: Kai Wang
 Applicant : Nedap
 Product : ASSY AD46R RF+MD+RFID
 Model No. : Lumen iL45
 Test Rating : 120Vac/60Hz
 Tmp/Hum : 22.1 °C / 42 %
 Memo : AC Mains

	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



TUV Rheinland Taiwan Ltd.
 11F., No. 758, Sec. 4 Bade Road, Songshan Dist, Taipei City 105
 Tel:+886-2172-7000 Fax:+886-2528-0018

File: C:\EMC\Report\2017\Nedap\114067578-22(ASSY AD46R RF+MD+RFID)\114067578-22(ASSY AD46R RF+M



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