

Test Report No.50096222 001

Appendix D: Radiated and Mains Spurious Emission Data

(File: 50096222AppendixD)

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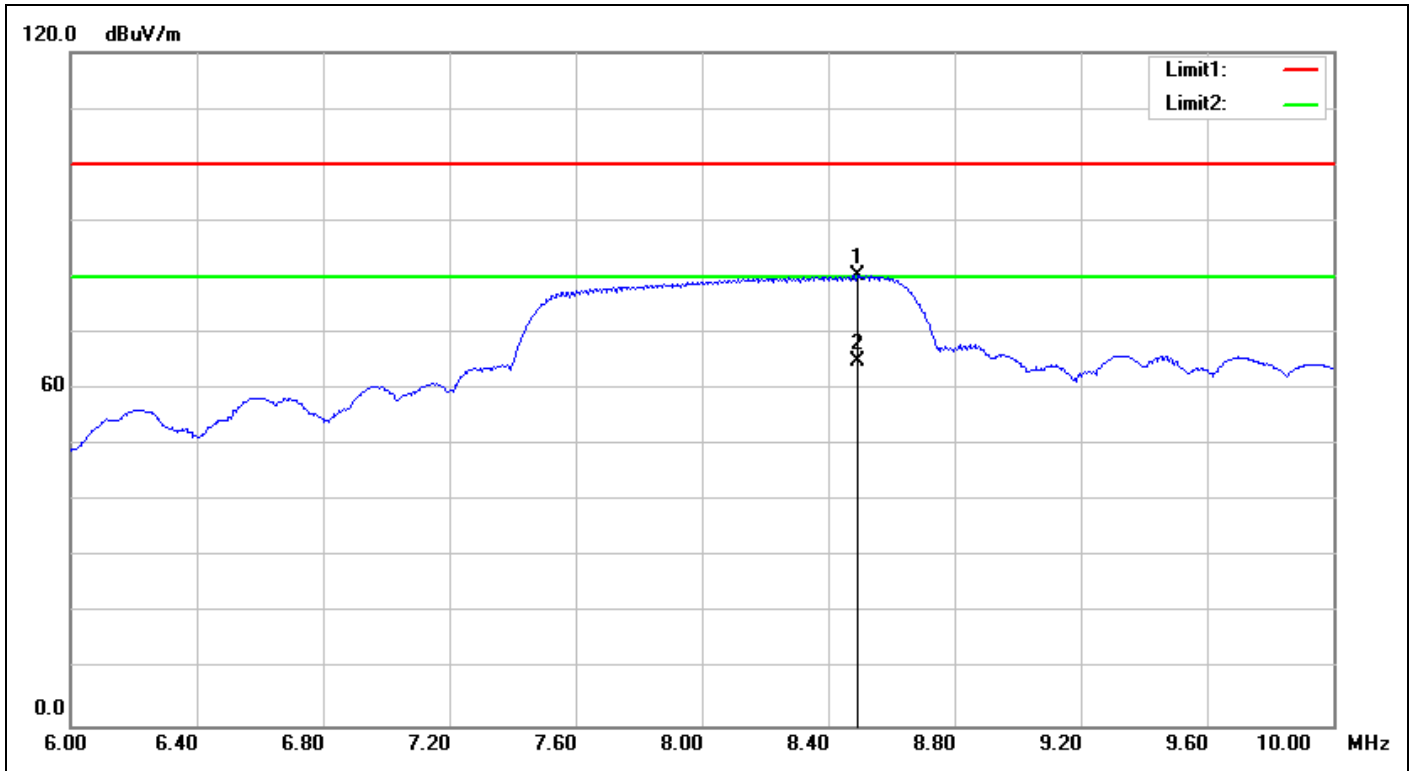
Emissions, Fundamental



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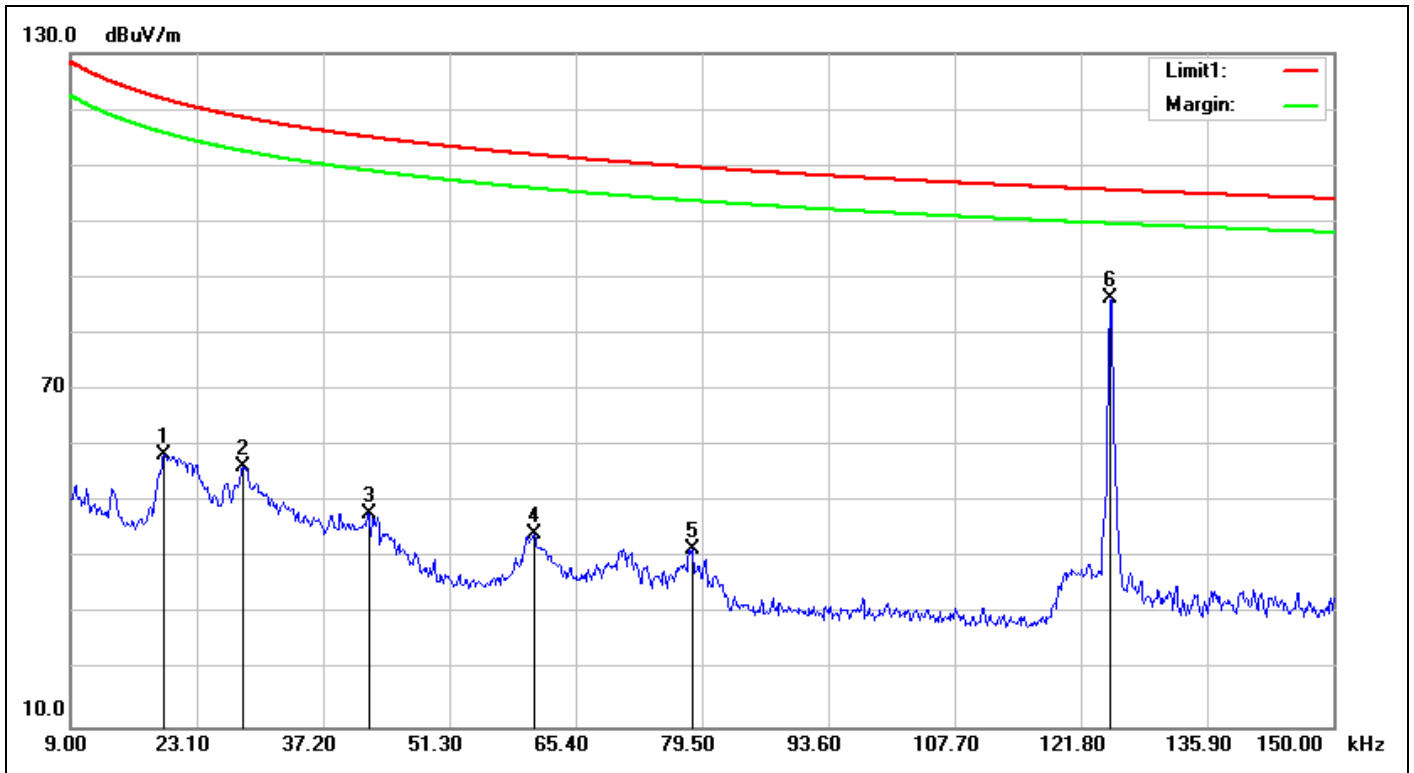
Service No.:	114067578-10(ASSY T325R RF+MD)	Test Distance:	3m
Test Standard:	FCC 15.223_主波_PK_3m(dBuV/m)	Ant. Polarization:	
Test item:	Radiation Emission	Test Time:	2017/8/4 15:31:43
Applicant:	Nedap	Test Rating:	AC 120V/60Hz
Product:	Lumen iL33	Temp.(°C)/Hum.(%):	22.5(°C)/50%
Model No.:	ASSY T325R RF+MD	Test Engineer:	Kai Wang
Test Mode:	(a) Normal operation		
Remark:	7565k~8571.25k-Tx		

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	60.14	80.22	100.00	-19.78	peak	100	128	Tx
2	8.4920	20.08	45.02	65.10	80.00	-14.90	AVG	100	128	

Spurious Emissions, TX Mode, 9-150 kHz



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Service No.:	114067578-10(ASSY T325R RF+MD)	Test Distance:	3m
Test Standard:	FCC15.209_9k-1G_3m	Ant. Polarization:	
Test item:	Radiation Emission	Test Time:	2017/8/4 15:17:16
Applicant:	Nedap	Test Rating:	AC 120V/60Hz
Product:	Lumen iL33	Temp.(°C)/Hum.(%):	22.5(°C)/50%
Model No.:	ASSY T325R RF+MD	Test Engineer:	Kai Wang
Test Mode:	(a) Normal operation		
Remark:	7565k~8571.25k-Tx		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.0194	20.02	38.51	58.53	121.83	-63.30	QP	100	209	
2	0.0281	20.11	36.12	56.23	118.62	-62.39	QP	100	305	
3	0.0422	19.70	28.35	48.05	115.09	-67.04	QP	100	127	
4	0.0607	19.37	24.94	44.31	111.93	-67.62	QP	100	184	
5	0.0783	19.26	22.49	41.75	109.72	-67.97	QP	100	139	

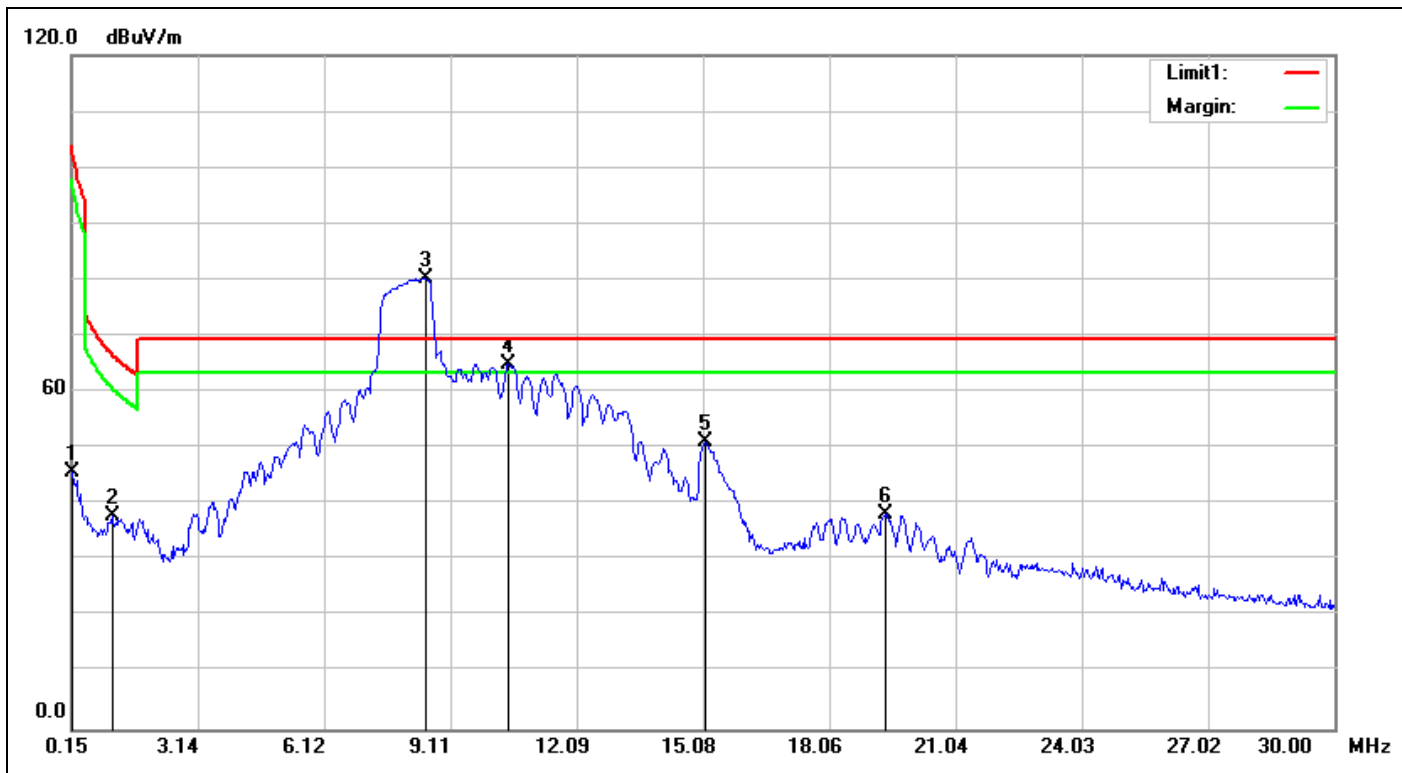
Spurious Emissions, TX Mode 9-150 kHz

6	0.1250	19.11	67.36	86.47	105.66	-19.19	QP	100	254	Tx
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Spurious Emissions, TX Mode, 150 kHz -30MHz



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Service No.:	114067578-10(ASSY T325R RF+MD)	Test Distance:	3m
Test Standard:	FCC15.209_9k-1G_3m	Ant. Polarization:	
Test item:	Radiation Emission	Test Time:	2017/8/4 15:20:03
Applicant:	Nedap	Test Rating:	AC 120V/60Hz
Product:	Lumen iL33	Temp.(°C)/Hum.(%):	22.5(°C)/50%
Model No.:	ASSY T325R RF+MD	Test Engineer:	Kai Wang
Test Mode:	(a) Normal operation		
Remark:	7565k~8571.25k-Tx		

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.1798	19.06	26.75	45.81	102.50	-56.69	peak	100	97	
2	1.1052	18.95	19.04	37.99	66.76	-28.77	peak	100	125	
3	8.5079	20.08	60.24	80.32	69.50	10.82	peak	100	128	Tx
4	10.4781	20.30	44.67	64.97	69.50	-4.53	peak	100	258	
5	15.1347	21.12	30.01	51.13	69.50	-18.37	peak	100	315	

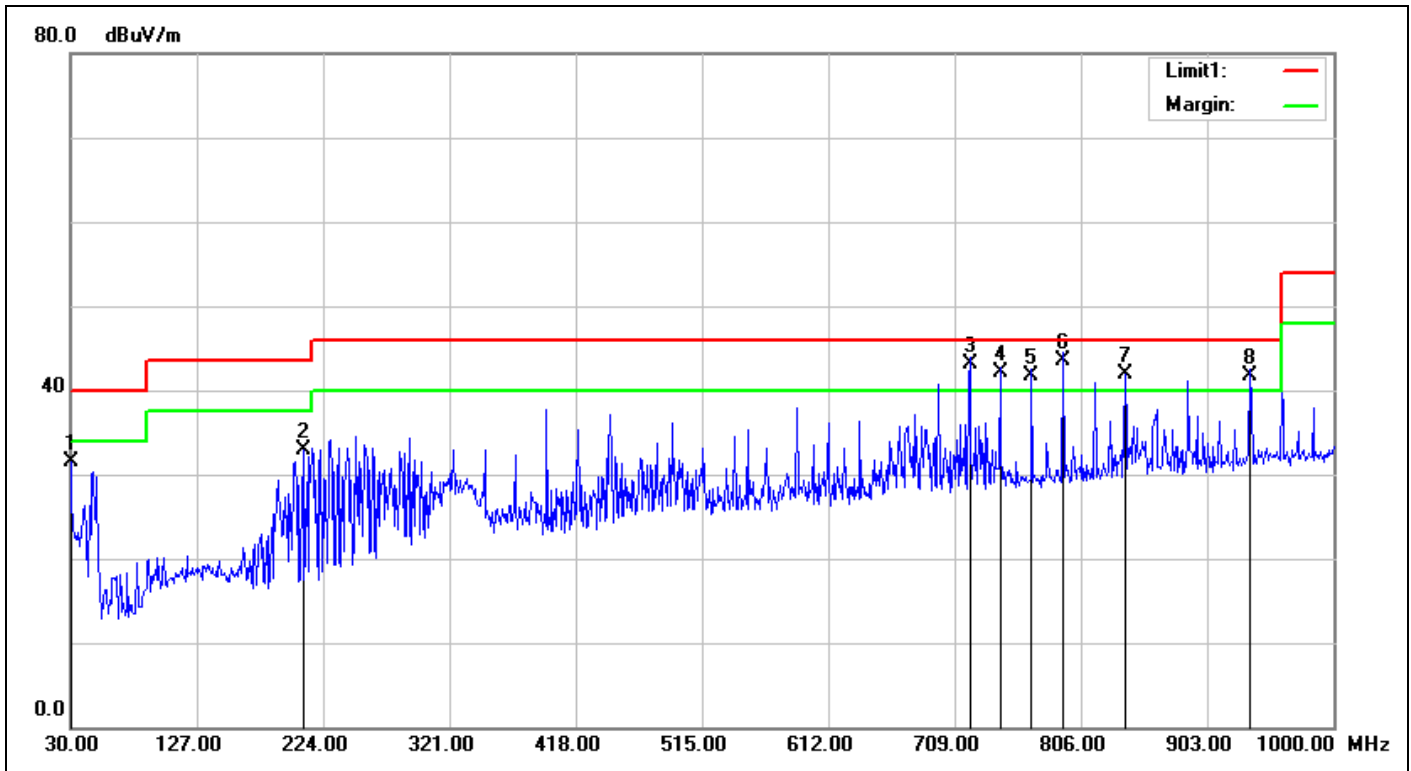
Spurious Emissions, TX Mode 150 kHz -30MHz

6	19.4031	21.88	16.48	38.36	69.50	-31.14	peak	100	139	
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Spurious Emissions, TX Mode, 30MHz-1GHz



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Service No.:	114067578-10(ASSY T325R RF+MD)	Test Distance:	3m
Test Standard:	FCC Class B 3M Radiation	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/8/4 16:28:50
Applicant:	Nedap	Test Rating:	AC 120V/60Hz
Product:	Lumen iL33	Temp.(°C)/Hum.(%):	22.5(°C)/50%
Model No.:	ASSY T325R RF+MD	Test Engineer:	Kai Wang
Test Mode:	(a) Normal operation		
Remark:	7565k-8571.25k-Tx		

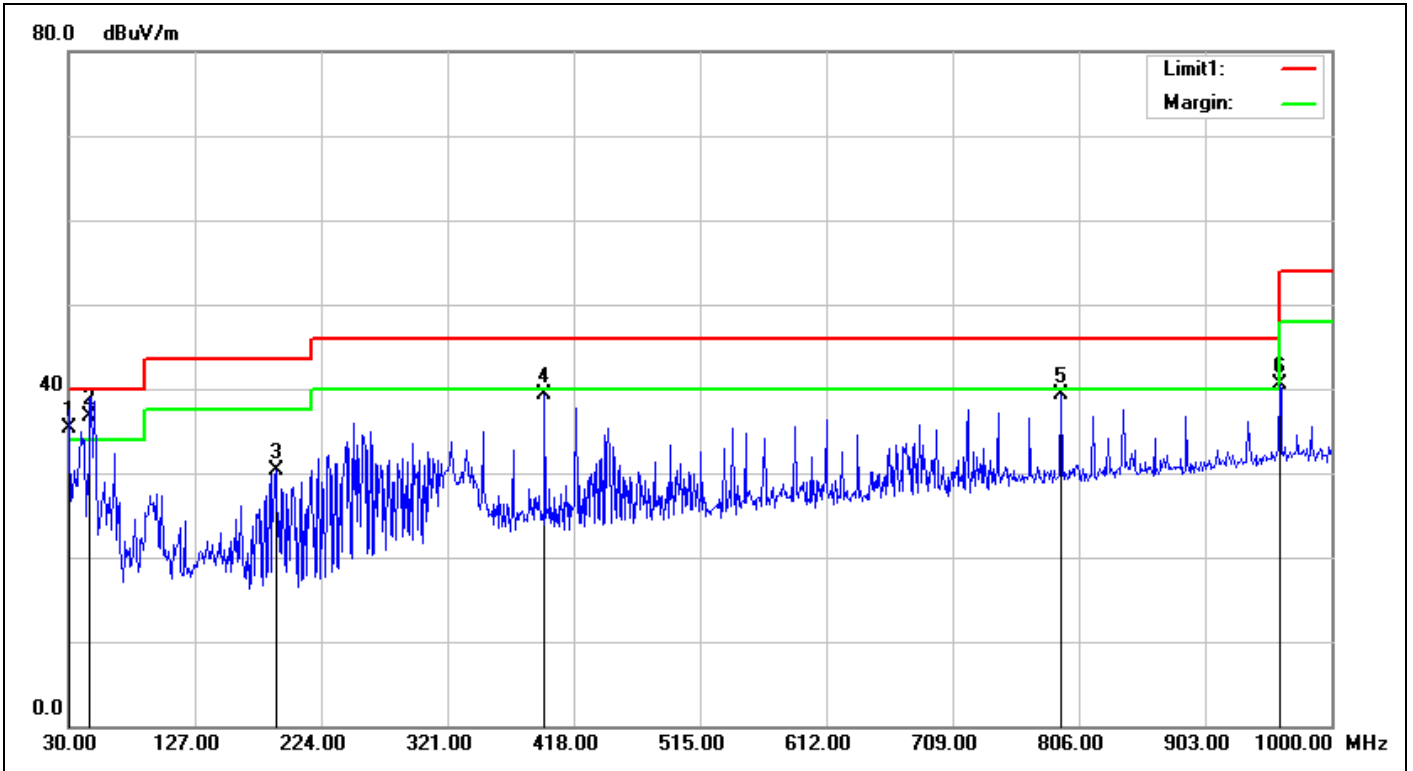
No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	30.0000	-0.08	31.53	31.45	40.00	-8.55	QP	300	83	
2	209.4500	-8.59	41.49	32.90	43.50	-10.60	QP	200	40	
3	720.6400	1.61	41.49	43.10	46.00	-2.90	QP	100	309	
4	743.9200	2.21	39.99	42.20	46.00	-3.80	QP	100	248	
5	768.1700	2.55	39.25	41.80	46.00	-4.20	QP	100	253	

Spurious Emissions, TX Mode, 30M-1GHz

6	792.4200	2.78	40.82	43.60	46.00	-2.40	QP	100	266	
7	839.9500	3.55	38.44	41.99	46.00	-4.01	QP	100	74	
8	935.9800	5.04	36.71	41.75	46.00	-4.25	QP	100	130	



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Service No.:	114067578-10(ASSY T325R RF+MD)	Test Distance:	3m
Test Standard:	FCC Class B 3M Radiation	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/8/4 16:33:26
Applicant:	Nedap	Test Rating:	AC 120V/60Hz
Product:	Lumen iL33	Temp.(°C)/Hum.(%):	22.5(°C)/50%
Model No.:	ASSY T325R RF+MD	Test Engineer:	Kai Wang
Test Mode:	(a) Normal operation		
Remark:	7565k~8571.25k-Tx		

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	35.38	35.30	40.00	-4.70	QP	100	349	
2	46.4900	-9.38	46.08	36.70	40.00	-3.30	QP	100	147	
3	189.0800	-9.60	39.84	30.24	43.50	-13.26	QP	100	33	

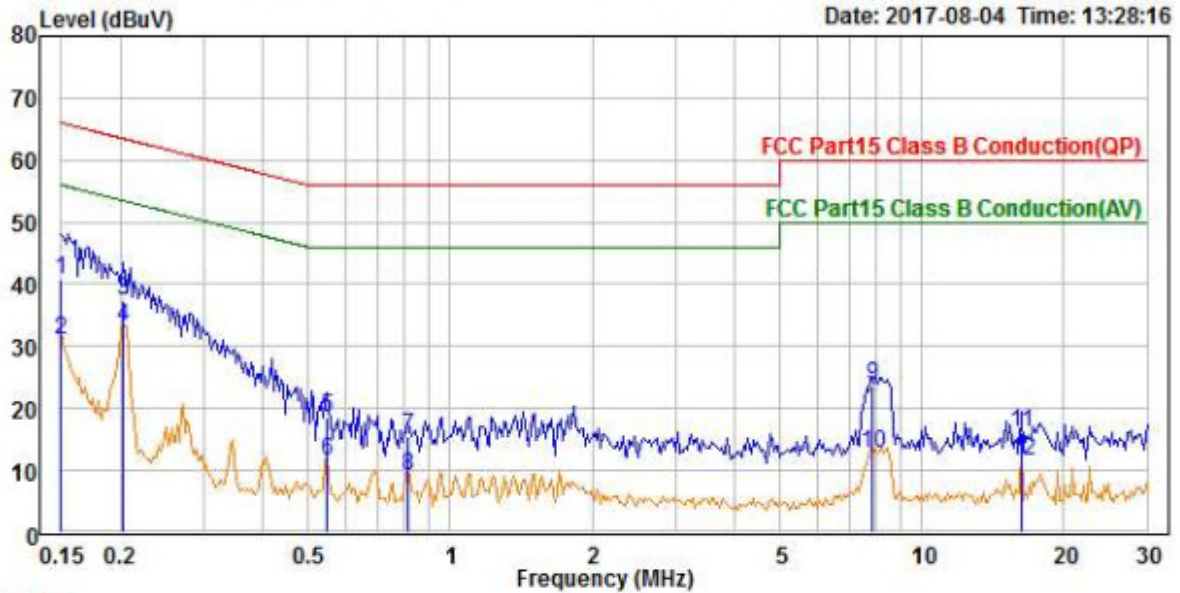
Spurious Emissions, TX Mode, 30M-1GHz

4	395.6900	-2.60	41.86	39.26	46.00	-6.74	QP	100	35	
5	792.4200	2.78	36.58	39.36	46.00	-6.64	QP	100	211	
6	960.2300	5.46	35.07	40.53	54.00	-13.47	QP	100	133	

Mains Spurious Emissions



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Trace: 1

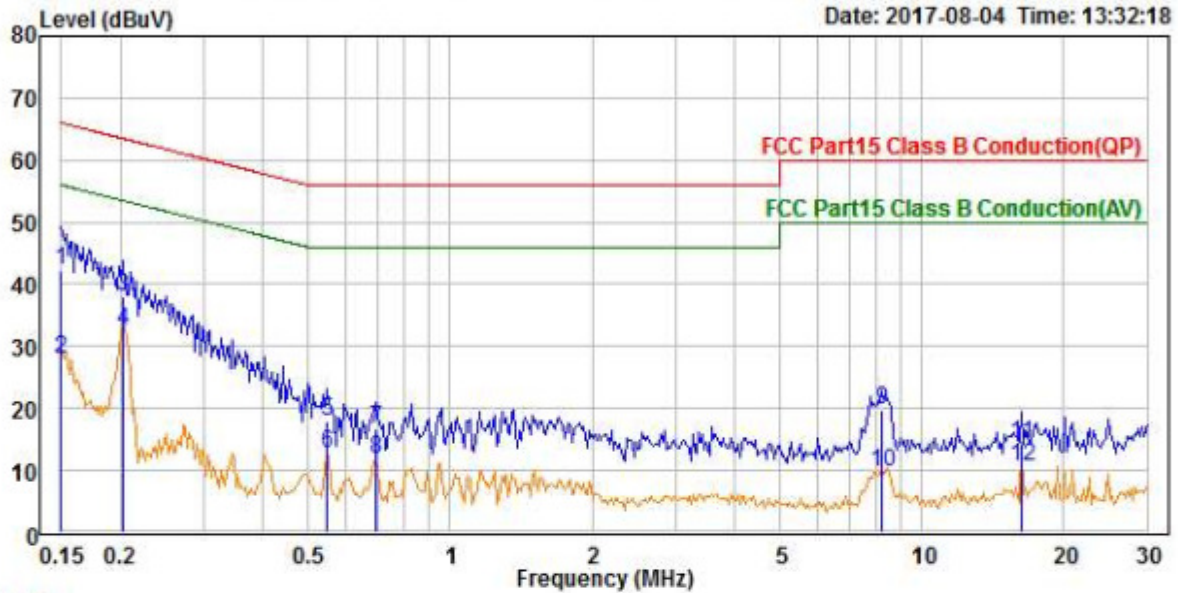
Site : Conduction room
 Condition : FCC Part15 Class B Conduction(QP) line1
 Test Engineer: Kai Wang
 Applicant : Nedap
 Product : ASSY T325R RF+MD
 Model No. : Lumen iL33
 Test Rating : 120Vac/60Hz
 Tmp/Hum : 21.1 °C / 45 %
 Memo : (a) Normal operation
 Remark : Metal + RF Tag

	Freq	Level	Read Level	LISN Factor	Cable Loss	Factor	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV	dB	dB	dB	dBuV	dB	
1	0.150	40.91	31.25	9.64	0.02	9.66	66.00	-25.09	QP
2	0.150	31.05	21.39	9.64	0.02	9.66	56.00	-24.95	Average
3	0.202	37.46	27.80	9.64	0.02	9.66	63.52	-26.06	QP
4	0.202	33.01	23.35	9.64	0.02	9.66	53.52	-20.51	Average
5	0.546	18.70	9.04	9.64	0.02	9.66	56.00	-37.30	QP
6	0.546	11.58	1.92	9.64	0.02	9.66	46.00	-34.42	Average
7	0.813	15.53	5.87	9.64	0.02	9.66	56.00	-40.47	QP
8	0.813	9.14	-0.52	9.64	0.02	9.66	46.00	-36.86	Average
9	7.840	23.84	14.07	9.70	0.07	9.77	60.00	-36.16	QP
10	7.840	12.84	3.07	9.70	0.07	9.77	50.00	-37.16	Average
11	16.198	16.17	6.37	9.70	0.10	9.80	60.00	-43.83	QP
12	16.198	11.62	1.82	9.70	0.10	9.80	50.00	-38.38	Average



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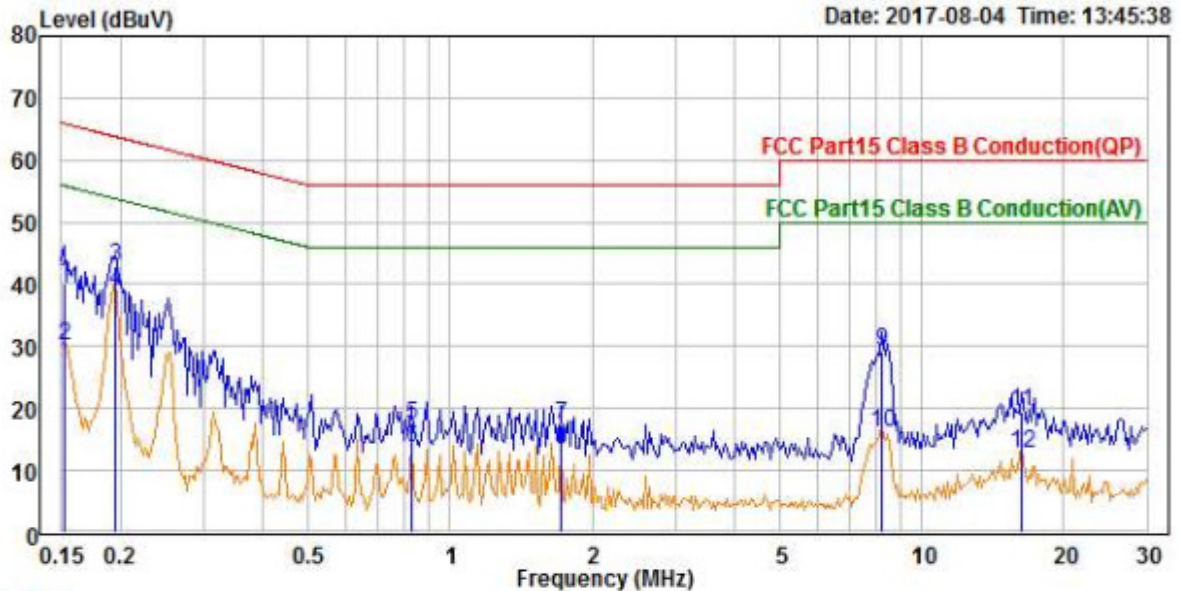
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Site : Conduction room
 Condition : FCC Part15 Class B Conduction(QP) neutral
 Test Engineer: Kai Wang
 Applicant : Nedap
 Product : ASSY T325R RF+MD
 Model No. : Lumen iL33
 Test Rating : 120Vac/60Hz
 Tmp/Hum : 21.1 °C / 45 %
 Memo : (a) Normal operation
 Remark : Metal + RF Tag

	Freq	Level	Read Level	LISN Factor	Cable Loss	Factor	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV	dB	dB	dB	dBuV	dB	
1	0.150	42.38	32.71	9.65	0.02	9.67	66.00	-23.62	QP
2	0.150	28.09	18.42	9.65	0.02	9.67	56.00	-27.91	Average
3	0.202	37.97	28.30	9.65	0.02	9.67	63.52	-25.55	QP
4	0.202	32.61	22.94	9.65	0.02	9.67	53.52	-20.91	Average
5	0.546	17.84	8.18	9.64	0.02	9.66	56.00	-38.16	QP
6	0.546	12.79	3.13	9.64	0.02	9.66	46.00	-33.21	Average
7	0.693	16.60	6.93	9.65	0.02	9.67	56.00	-39.40	QP
8	0.693	11.89	2.22	9.65	0.02	9.67	46.00	-34.11	Average
9	8.239	19.64	9.85	9.72	0.07	9.79	60.00	-40.36	QP
10	8.239	9.78	-0.01	9.72	0.07	9.79	50.00	-40.22	Average
11	16.198	14.38	4.52	9.76	0.10	9.86	60.00	-45.62	QP
12	16.198	10.58	0.72	9.76	0.10	9.86	50.00	-39.42	Average



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Trace: 1

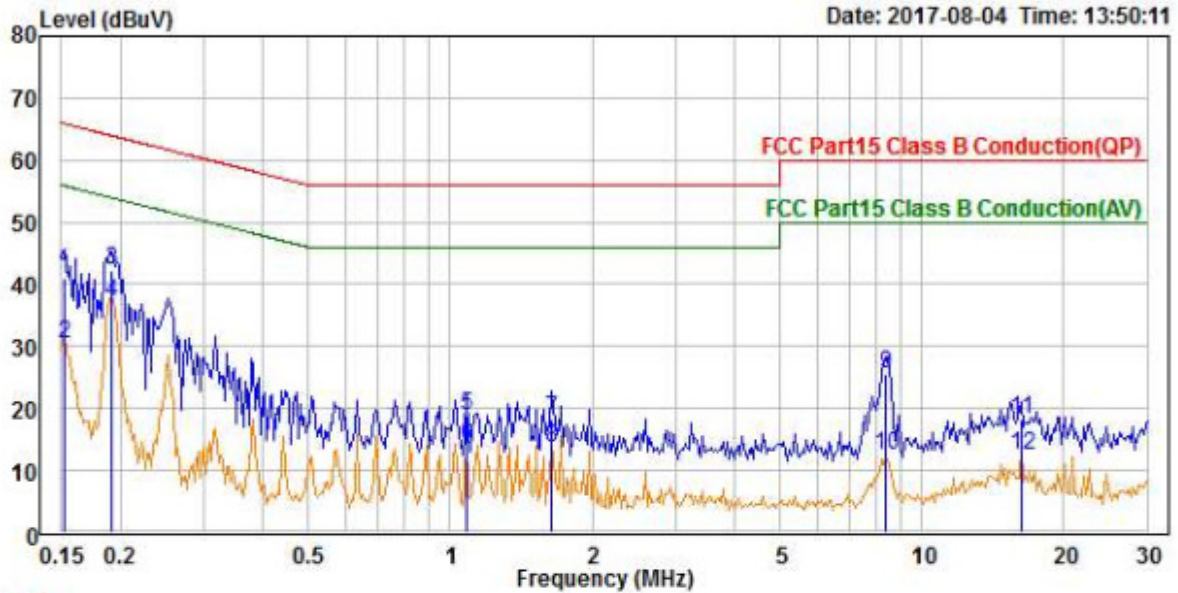
Site : Conduction room
 Condition : FCC Part15 Class B Conduction(QP) line1
 Test Engineer: Kai Wang
 Applicant : Nedap
 Product : ASSY T325R RF+MD
 Model No. : Lumen iL33
 Test Rating : 240Vac/60Hz
 Tmp/Hum : 21.1 °C / 45 %
 Memo : (a) Normal operation
 Remark : Metal + RF Tag

	Freq	Level	Read Level	LISN Factor	Cable Loss	Factor	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV	dB	dB	dB	dBuV	dB	
1	0.151	40.29	30.63	9.64	0.02	9.66	65.92	-25.63	QP
2	0.151	29.98	20.32	9.64	0.02	9.66	55.92	-25.94	Average
3	0.194	42.94	33.28	9.64	0.02	9.66	63.85	-20.91	QP
4	0.194	38.81	29.15	9.64	0.02	9.66	53.85	-15.04	Average
5	0.829	17.19	7.53	9.64	0.02	9.66	56.00	-38.81	QP
6	0.829	13.60	3.94	9.64	0.02	9.66	46.00	-32.40	Average
7	1.713	17.42	7.73	9.65	0.04	9.69	56.00	-38.58	QP
8	1.713	13.43	3.74	9.65	0.04	9.69	46.00	-32.57	Average
9	8.239	29.10	19.33	9.70	0.07	9.77	60.00	-30.90	QP
10	8.239	16.21	6.44	9.70	0.07	9.77	50.00	-33.79	Average
11	16.198	19.56	9.76	9.70	0.10	9.80	60.00	-40.44	QP
12	16.198	12.73	2.93	9.70	0.10	9.80	50.00	-37.27	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 T325R RF+MD
 Model No. : Lumen iL33
 Test Rating : 240Vac/60Hz
 Tmp/Hum : 21.1 °C / 45 %
 Memo : (a) Normal operation
 Remark : Metal + RF Tag

	Freq	Level	Read Level	LISN Factor	Cable Loss	Factor	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV	dB	dB	dB	dBuV	dB	
1	0.151	41.18	31.51	9.65	0.02	9.67	65.92	-24.74	QP
2	0.151	30.31	20.64	9.65	0.02	9.67	55.92	-25.61	Average
3	0.192	42.15	32.48	9.65	0.02	9.67	63.94	-21.79	QP
4	0.192	37.01	27.34	9.65	0.02	9.67	53.94	-16.93	Average
5	1.084	18.77	9.09	9.65	0.03	9.68	56.00	-37.23	QP
6	1.084	13.89	4.21	9.65	0.03	9.68	46.00	-32.11	Average
7	1.646	18.40	8.70	9.66	0.04	9.70	56.00	-37.60	QP
8	1.646	13.73	4.03	9.66	0.04	9.70	46.00	-32.27	Average
9	8.405	25.47	15.68	9.72	0.07	9.79	60.00	-34.53	QP
10	8.405	12.42	2.63	9.72	0.07	9.79	50.00	-37.58	Average
11	16.198	18.31	8.45	9.76	0.10	9.86	60.00	-41.69	QP
12	16.198	12.43	2.57	9.76	0.10	9.86	50.00	-37.57	Average