# Test Report No.50258015 001

# Appendix D: Radiated and Mains Spurious Emission Data

(File: 50258015AppendixD)

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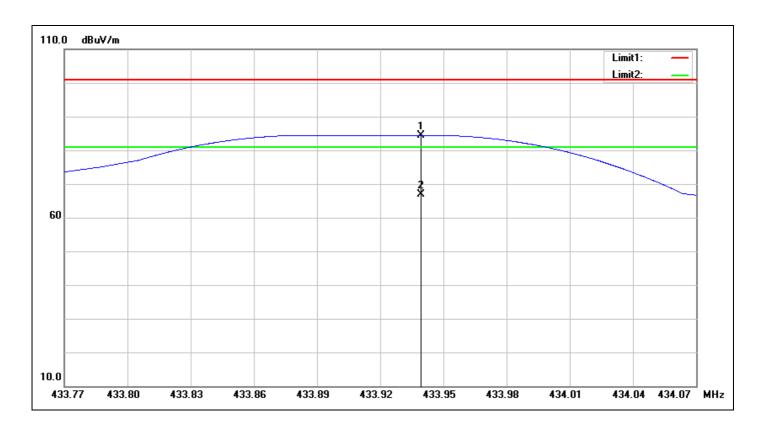
# **Emissions, Fundamental**



# **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.: 238101688 Test Distance: 3m

Test Standard: FCC 15.231\_field strength\_3m\_PK Ant. Polarization: Horizontal

Test item: Radiation Emission Test Time: 2019/5/7 13:39:01

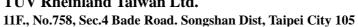
Applicant: WHETRON ELECTRONICS CO.,LTD Test Rating: DC 3V

Product: Temp.(°C)/Hum.(%): 22(°C)/50%

Model No.: S300068100T Test Engineer: Curry Chen

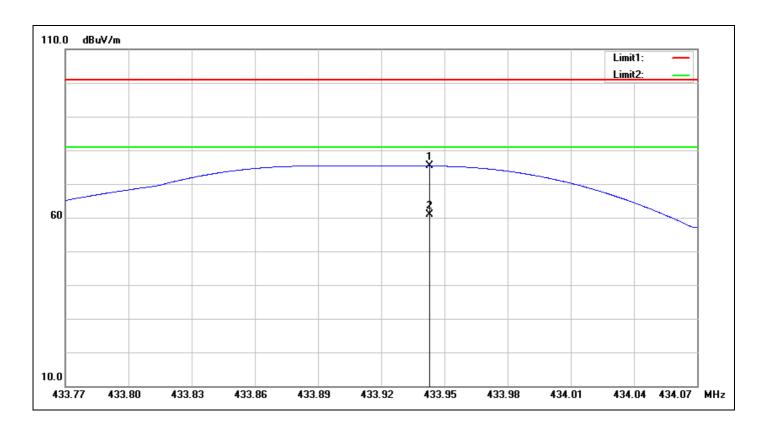
Test Mode: 433.92M-Fundamental

No.	Frequency	Factor	Reading	Level	Limit	Margin	Det.	Height	Azimuth	Remark
	(MHz)	(dB/m)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)		(cm)	(•)	
1	433.9395	-2.08	86.55	84.47	100.80	-16.33	peak	100	55	
2	433.9395	-2.08	69.08	67.00	80.80	-13.80	AVG	100	55	





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



238101688 Service No.: **Test Distance:** 3m

**Test Standard:** FCC 15.231\_field strength\_3m\_PK **Ant. Polarization:** Vertical

Test item: **Test Time:** 2019/5/7 13:39:54 **Radiation Emission** 

**Applicant:** WHETRON ELECTRONICS CO.,LTD **Test Rating:** DC 3V

Temp.( $^{\circ}$ )/Hum.( $^{\circ}$ ): 22(°C)/50% **Product:** 

**Model No.:** S300068100T **Curry Chen Test Engineer:** 

**Test Mode:** 433.92M-Fundamental

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No.	Frequency	Factor	Reading	Level	Limit	Margin	Det.	Height	Azimuth	Remark
	(MHz)	(dB/m)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)		(cm)	(•)	
1	433.9431	-2.08	77.41	75.33	100.80	-25.47	peak	100	239	
2	433.9431	-2.08	62.88	60.80	80.80	-20.00	AVG	100	239	

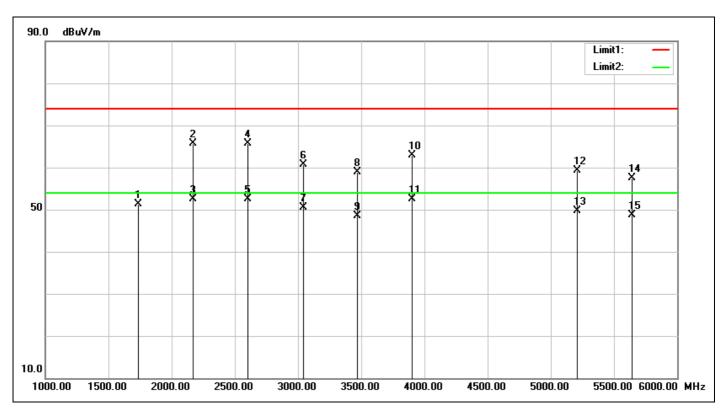
# Spurious Emissions, TX Mode, 1-6G



#### **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.: 238101688 Test Distance: 3m

Test Standard: FCC Above 1G PEAK Ant. Polarization: Horizontal

Test item: Radiation Emission Test Time: 2019/5/7 10:58:26

Applicant: WHETRON ELECTRONICS CO.,LTD Test Rating: DC 3V

Product: Temp.(°C)/Hum.(%): 22(°C)/50%

Model No.: S300068100T Test Engineer: Curry Chen

Test Mode: 433.92M-TX

No.	Frequency	Factor	Reading	Level	Limit	Margin	Det.	Height	Azimuth	Remark
	(MHz)	(dB/m)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)		(cm)	(•)	
1	1735.000	-7.51	58.82	51.31	74.00	-22.69	peak	100	92	
2	2170.000	-5.64	71.42	65.78	74.00	-8.22	peak	102	109	
3	2170.000	-5.64	58.20	52.56	54.00	-1.44	AVG	102	109	
4	2605.000	-5.41	71.03	65.62	74.00	-8.38	peak	150	144	
5	2605.000	-5.41	57.90	52.49	54.00	-1.51	AVG	150	144	
6	3040.000	-4.73	65.45	60.72	74.00	-13.28	peak	121	305	
7	3040.000	-4.73	55.33	50.60	54.00	-3.40	AVG	121	305	
8	3470.000	-4.39	63.38	58.99	74.00	-15.01	peak	100	72	

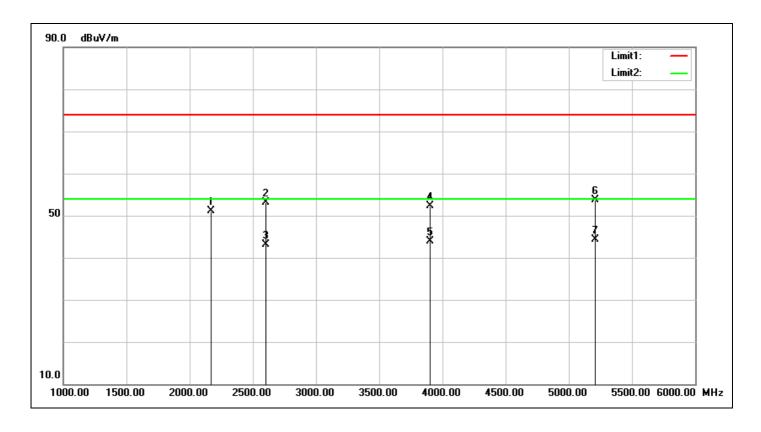
9	3470.000	-4.39	52.85	48.46	54.00	-5.54	AVG	100	72	
10	3905.000	-3.44	66.37	62.93	74.00	-11.07	peak	171	51	
11	3905.000	-3.44	55.98	52.54	54.00	-1.46	AVG	171	51	
12	5210.000	0.27	58.98	59.25	74.00	-14.75	peak	100	243	
13	5210.000	0.27	49.36	49.63	54.00	-4.37	AVG	100	243	
14	5645.000	2.53	54.99	57.52	74.00	-16.48	peak	181	27	
15	5645.000	2.53	46.15	48.68	54.00	-5.32	AVG	181	27	

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# **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.: 238101688 Test Distance: 3m

Test Standard: FCC Above 1G PEAK Ant. Polarization: Vertical

Test item: Radiation Emission Test Time: 2019/5/7 10:59:18

Applicant: WHETRON ELECTRONICS CO.,LTD Test Rating: DC 3V

Product: Temp.(°C)/Hum.(%): 22(°C)/50%

Model No.: S300068100T Test Engineer: Curry Chen

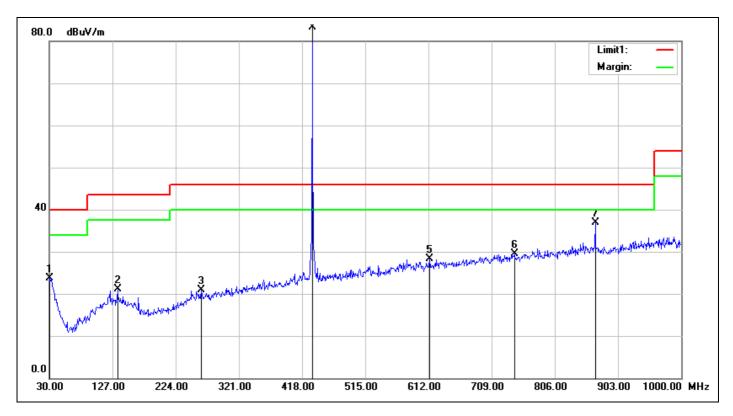
Test Mode: 433.92M-TX

No.	Frequency	Factor	Reading	Level	Limit	Margin	Det.	Height	Azimuth	Remark
	(MHz)	(dB/m)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)		(cm)	(•)	
1	2170.000	-5.64	56.84	51.20	74.00	-22.80	peak	100	312	
2	2605.000	-5.41	58.44	53.03	74.00	-20.97	peak	100	233	
3	2605.000	-5.41	48.53	43.12	54.00	-10.88	AVG	100	233	
4	3905.000	-3.44	55.76	52.32	74.00	-21.68	peak	151	291	
5	3905.000	-3.44	47.33	43.89	54.00	-10.11	AVG	151	291	
6	5210.000	0.27	53.37	53.64	74.00	-20.36	peak	166	110	
7	5210.000	0.27	44.12	44.39	54.00	-9.61	AVG	166	110	



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Service No.: 238101688 Test Distance: 3m

Test Standard: FCC Class B 3M Radiation Ant. Polarization: Horizontal

Test item: Radiation Emission Test Time: 2019/5/7 11:33:03

Applicant: WHETRON ELECTRONICS CO.,LTD Test Rating: DC 3V

Product: Temp.(°C)/Hum.(%): 22(°C)/50%

Model No.: S300068100T Test Engineer: Curry Chen

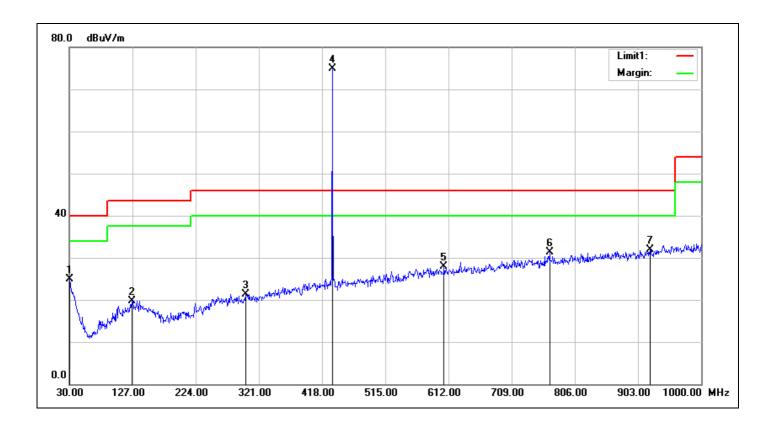
Test Mode: 433.92M-TX

No.	Frequency	Factor	Reading	Level	Limit	Margin	Det.	Height	Azimuth	Remark
	(MHz)	(dB/m)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)		(cm)	(•)	
1	30.0000	-0.03	23.76	23.73	40.00	-16.27	QP	100	9	
2	134.7600	-6.94	28.00	21.06	43.50	-22.44	QP	100	246	
3	262.8000	-5.00	25.98	20.98	46.00	-25.02	QP	100	230	
4	433.5200	-2.07	85.63	83.56	46.00	37.56	QP	100	197	TX
5	613.9400	0.24	28.12	28.36	46.00	-17.64	QP	100	315	
6	743.9200	2.38	27.19	29.57	46.00	-16.43	QP	100	309	
7	868.0800	4.22	32.62	36.84	46.00	-9.16	QP	100	72	



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Service No.: 238101688 Test Distance: 3m

Test Standard: FCC Class B 3M Radiation Ant. Polarization: Vertical

Test item: Radiation Emission Test Time: 2019/5/7 11:33:56

Applicant: WHETRON ELECTRONICS CO.,LTD Test Rating: DC 3V

Product: Temp.(°C)/Hum.(%): 22(°C)/50%

Model No.: S300068100T Test Engineer: Curry Chen

Test Mode: 433.92M-TX

No.	Frequency	Factor	Reading	Level	Limit	Margin	Det.	Height	Azimuth	Remark
	(MHz)	(dB/m)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)		(cm)	(•)	
1	30.9700	-0.51	25.34	24.83	40.00	-15.17	QP	100	359	
2	126.0300	-7.20	26.94	19.74	43.50	-23.76	QP	100	117	
3	300.6300	-4.55	25.87	21.32	46.00	-24.68	QP	100	338	
4	433.5200	-2.07	77.00	74.93	46.00	28.93	QP	100	233	TX
5	605.2100	0.23	27.63	27.86	46.00	-18.14	QP	100	51	
6	767.2000	2.73	28.49	31.22	46.00	-14.78	QP	100	311	
7	921.4300	4.73	27.20	31.93	46.00	-14.07	QP	100	318	

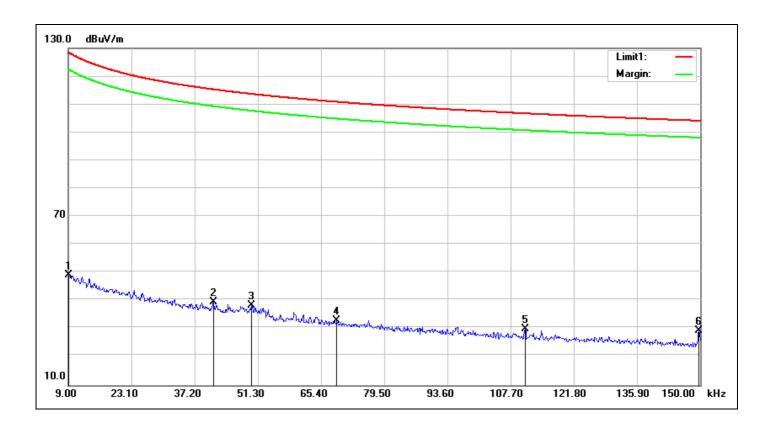
# Spurious Emissions, TX Mode, 9kHz-30M



# **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.: 238101688 Test Distance: 3m

Test Standard: FCC15.209\_9k-1G\_3m Ant. Polarization:

Test item: Radiation Emission Test Time: 2019/5/7 14:22:02

Applicant: WHETRON ELECTRONICS CO.,LTD Test Rating: DC 3V

Product: Temp.(°C)/Hum.(%): 22(°C)/50%

Model No.: S300068100T Test Engineer: Curry Chen

Test Mode: 433.92M-TX

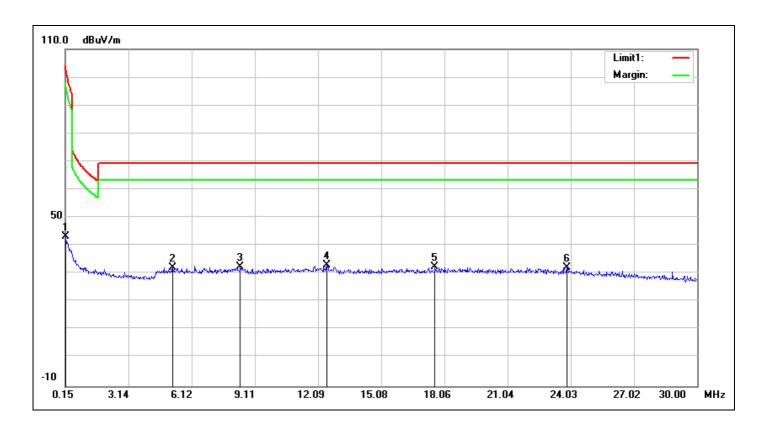
No.	Frequency	Factor	Reading	Level	Limit	Margin	Det.	Height	Azimuth	Remark
	(MHz)	(dB/m)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)		(cm)	(•)	
1	0.0090	18.32	30.76	49.08	128.50	-79.42	QP	100	111	
2	0.0414	19.09	20.46	39.55	115.25	-75.70	QP	100	284	
3	0.0498	18.92	19.33	38.25	113.65	-75.40	QP	100	235	
4	0.0689	18.69	14.24	32.93	110.83	-77.90	QP	100	176	
5	0.1109	18.34	11.57	29.91	106.70	-76.79	QP	100	315	
6	0.1497	18.35	11.01	29.36	104.09	-74.73	QP	100	0	

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# **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.: 238101688 Test Distance: 3m

Test Standard: FCC15.209\_9k-1G\_3m Ant. Polarization:

Test item: Radiation Emission Test Time: 2019/5/7 14:28:13

Applicant: WHETRON ELECTRONICS CO.,LTD Test Rating: DC 3V

Product: Temp.(°C)/Hum.(%): 22(°C)/50%

Model No.: S300068100T Test Engineer: Curry Chen

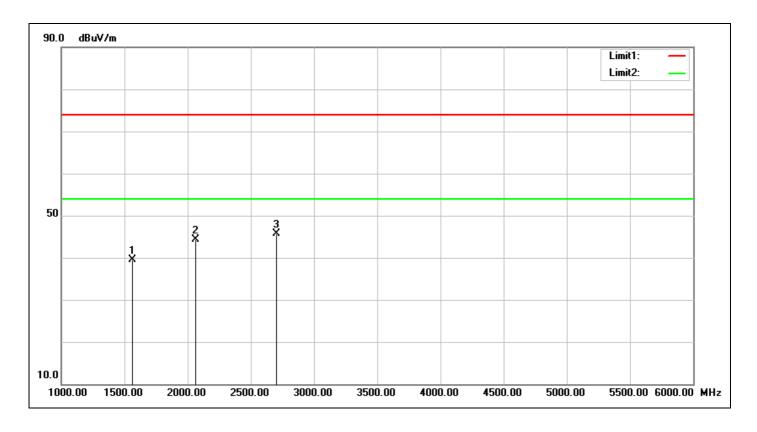
Test Mode: 433.92M-TX

No.	Frequency	Factor	Reading	Level	Limit	Margin	Det.	Height	Azimuth	Remark
	(MHz)	(dB/m)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)		(cm)	( • )	
1	0.1500	18.36	24.81	43.17	104.08	-60.91	QP	100	167	
2	5.2245	19.51	12.72	32.23	69.50	-37.27	QP	100	146	
3	8.4184	20.14	12.44	32.58	69.50	-36.92	QP	100	153	
4	12.5079	20.74	12.30	33.04	69.50	-36.46	QP	100	305	
5	17.6122	21.33	11.15	32.48	69.50	-37.02	QP	100	318	
6	23.8509	21.75	10.51	32.26	69.50	-37.24	QP	100	259	



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

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Service No.: 238101688 Test Distance: 3m

Test Standard: FCC Above 1G PEAK Ant. Polarization: Horizontal

Test item: Radiation Emission Test Time: 2019/5/7 11:11:20

Applicant: WHETRON ELECTRONICS CO.,LTD Test Rating: DC 3V

Product: Temp.(°C)/Hum.(%): 22(°C)/50%

Model No.: S300068100T Test Engineer: Curry Chen

Test Mode: 433.92M-RX

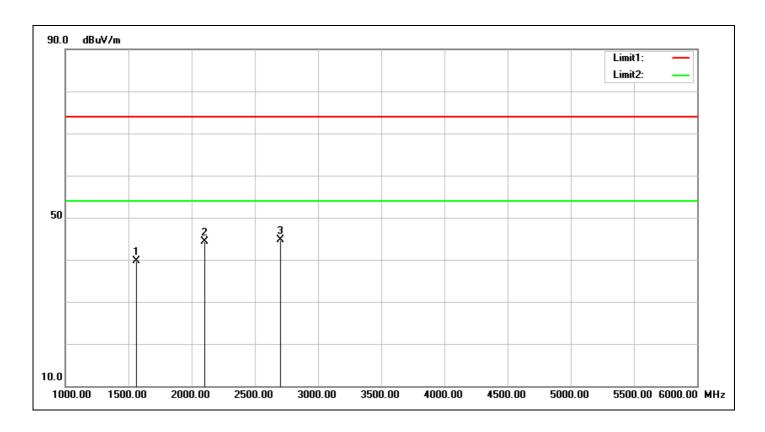
No.	Frequency	Factor	Reading	Level	Limit	Margin	Det.	Height	Azimuth	Remark
	(MHz)	(dB/m)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)		(cm)	(•)	
1	1565.000	-11.18	50.66	39.48	74.00	-34.52	peak	100	339	
2	2060.000	-8.17	52.53	44.36	74.00	-29.64	peak	100	188	
3	2705.000	-7.74	53.49	45.75	74.00	-28.25	peak	100	96	

# A<sub>®</sub>

# **TUV Rheinland Taiwan Ltd.**

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

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Service No.: 238101688 Test Distance: 3m

Test Standard: FCC Above 1G PEAK Ant. Polarization: Vertical

Test item: Radiation Emission Test Time: 2019/5/7 11:12:13

Applicant: WHETRON ELECTRONICS CO.,LTD Test Rating: DC 3V

Product: Temp.(°C)/Hum.(%): 22(°C)/50%

Model No.: S300068100T Test Engineer: Curry Chen

Test Mode: 433.92M-RX

No.	Frequency	Factor	Reading	Level	Limit	Margin	Det.	Height	Azimuth	Remark
	(MHz)	(dB/m)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)		(cm)	(•)	
1	1565.000	-11.18	50.89	39.71	74.00	-34.29	peak	100	282	
2	2105.000	-8.16	52.42	44.26	74.00	-29.74	peak	100	1	
3	2705.000	-7.74	52.53	44.79	74.00	-29.21	peak	100	285	

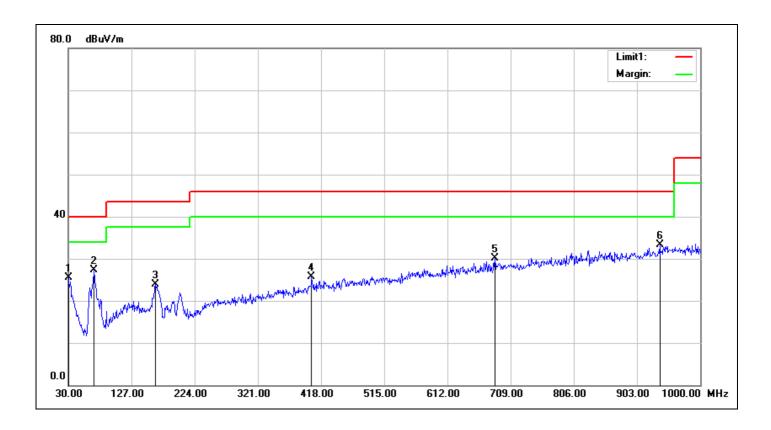
# Spurious Emissions, RX Mode, 30M-1G



#### **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.: 238101688 Test Distance: 3m

Test Standard: FCC Class B 3M Radiation Ant. Polarization: Horizontal

Test item: Radiation Emission Test Time: 2019/5/7 13:15:07

Applicant: WHETRON ELECTRONICS CO.,LTD Test Rating: DC 3V

Product: Temp.(°C)/Hum.(%): 22(°C)/50%

Model No.: S300068100T Test Engineer: Curry Chen

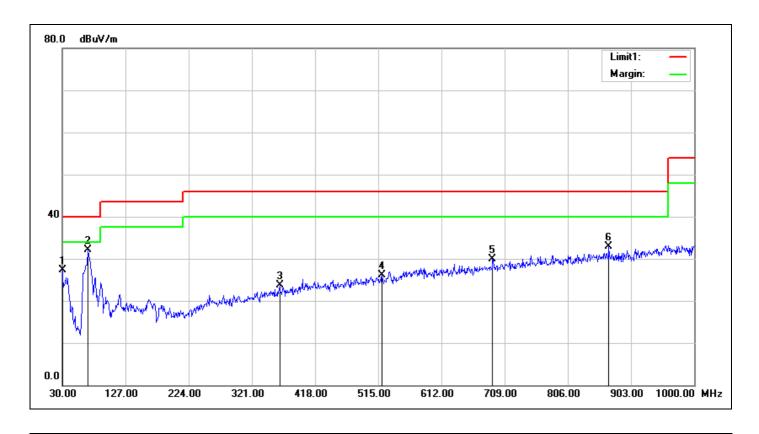
Test Mode: 433.92M-RX

No.	Frequency	Factor	Reading	Level	Limit	Margin	Det.	Height	Azimuth	Remark
	(MHz)	(dB/m)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)		(cm)	(•)	
1	30.0000	-0.03	25.44	25.41	40.00	-14.59	QP	100	338	
2	69.7700	-13.03	40.35	27.32	40.00	-12.68	QP	100	292	
3	163.8600	-8.38	32.20	23.82	43.50	-19.68	QP	100	114	
4	403.4500	-2.18	27.88	25.70	46.00	-20.30	QP	100	55	
5	684.7500	1.24	28.80	30.04	46.00	-15.96	QP	100	359	
6	937.9200	5.32	27.98	33.30	46.00	-12.70	QP	100	9	



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Service No.: 238101688 Test Distance: 3m

Test Standard: FCC Class B 3M Radiation Ant. Polarization: Vertical

Test item: Radiation Emission Test Time: 2019/5/7 13:16:01

Applicant: WHETRON ELECTRONICS CO.,LTD Test Rating: DC 3V

Product: Temp.(°C)/Hum.(%): 22(°C)/50%

Model No.: S300068100T Test Engineer: Curry Chen

Test Mode: 433.92M-RX

No.	Frequency	Factor	Reading	Level	Limit	Margin	Det.	Height	Azimuth	Remark
	(MHz)	(dB/m)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)		(cm)	(•)	
1	30.0000	-0.03	27.32	27.29	40.00	-12.71	QP	100	117	
2	69.7700	-13.03	45.20	32.17	40.00	-7.83	QP	100	64	
3	363.6800	-3.13	26.92	23.79	46.00	-22.21	QP	100	176	
4	520.8200	-0.93	26.98	26.05	46.00	-19.95	QP	100	121	
5	690.5700	1.35	28.57	29.92	46.00	-16.08	QP	100	153	
6	869.0500	4.22	28.68	32.90	46.00	-13.10	QP	100	209	

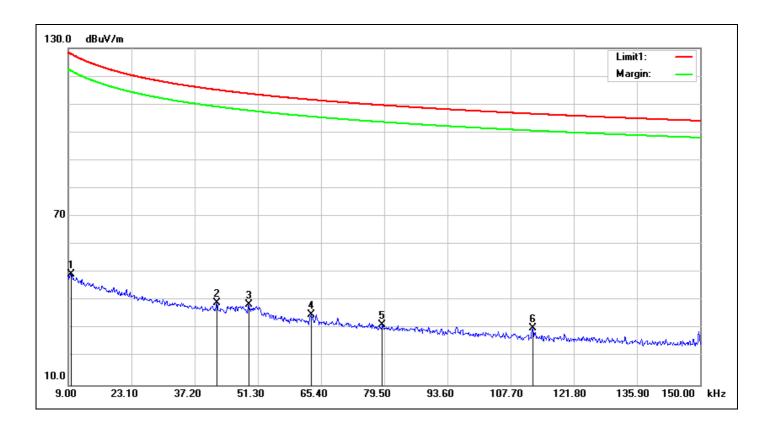
# Spurious Emissions, RX Mode, 9kHz-30M



#### **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.: 238101688 Test Distance: 3m

Test Standard: FCC15.209\_9k-1G\_3m Ant. Polarization:

Test item: Radiation Emission Test Time: 2019/5/7 14:22:55

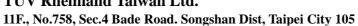
Applicant: WHETRON ELECTRONICS CO.,LTD Test Rating: DC 3V

Product: Temp.(°C)/Hum.(%): 22(°C)/50%

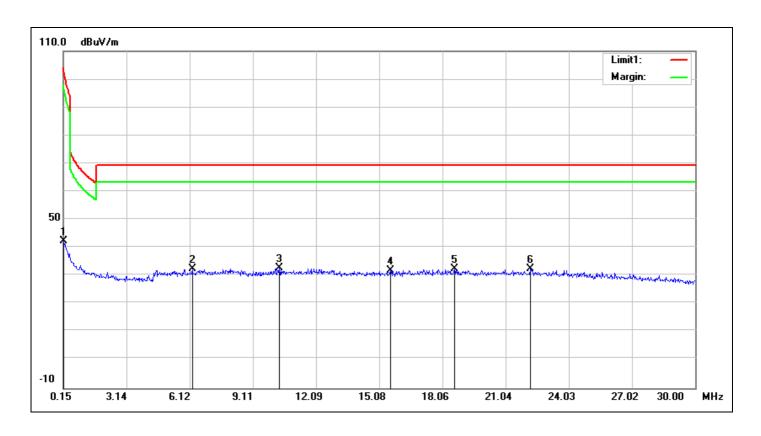
Model No.: S300068100T Test Engineer: Curry Chen

Test Mode: 433.92M-RX

No.	Frequency	Factor	Reading	Level	Limit	Margin	Det.	Height	Azimuth	Remark
	(MHz)	(dB/m)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)		(cm)	(•)	
1	0.0096	18.44	31.04	49.48	127.94	-78.46	QP	100	237	
2	0.0421	19.08	20.20	39.28	115.11	-75.83	QP	100	184	
3	0.0492	18.94	19.81	38.75	113.75	-75.00	QP	100	72	
4	0.0631	18.76	16.31	35.07	111.59	-76.52	QP	100	115	
5	0.0791	18.57	12.80	31.37	109.63	-78.26	QP	100	359	
6	0.1126	18.34	11.94	30.28	106.57	-76.29	QP	100	22	



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



Service No.: 238101688 **Test Distance:** 3m

**Test Standard:** FCC15.209\_9k-1G\_3m Ant. Polarization:

Test item: **Test Time: Radiation Emission** 2019/5/7 14:29:06

WHETRON ELECTRONICS CO.,LTD **Applicant: Test Rating:** DC 3V

Temp.( $^{\circ}$ )/Hum.( $^{\circ}$ ): 22(°C)/50% **Product:** 

**Model No.:** S300068100T **Test Engineer: Curry Chen** 

**Test Mode:** 433.92M-RX

No.	Frequency	Factor	Reading	Level	Limit	Margin	Det.	Height	Azimuth	Remark
	(MHz)	(dB/m)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)		(cm)	(•)	
1	0.1798	18.37	23.84	42.21	102.50	-60.29	QP	100	128	
2	6.2394	19.71	12.76	32.47	69.50	-37.03	QP	100	325	
3	10.3587	20.48	12.41	32.89	69.50	-36.61	QP	100	16	
4	15.6123	21.10	10.76	31.86	69.50	-37.64	QP	100	42	
5	18.6271	21.45	11.05	32.50	69.50	-37.00	QP	100	161	
6	22.2091	21.69	10.70	32.39	69.50	-37.11	QP	100	290	