

Test Report No.50087890 001

Appendix D: Radiated and Mains Spurious Emission Data

(File: 50087890AppendixD)

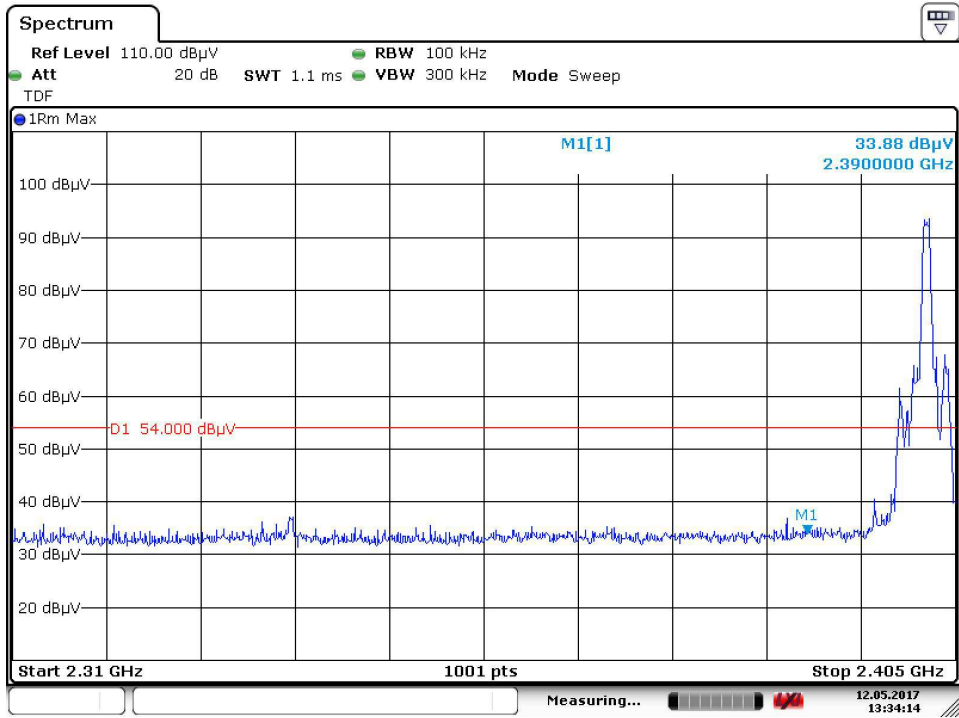
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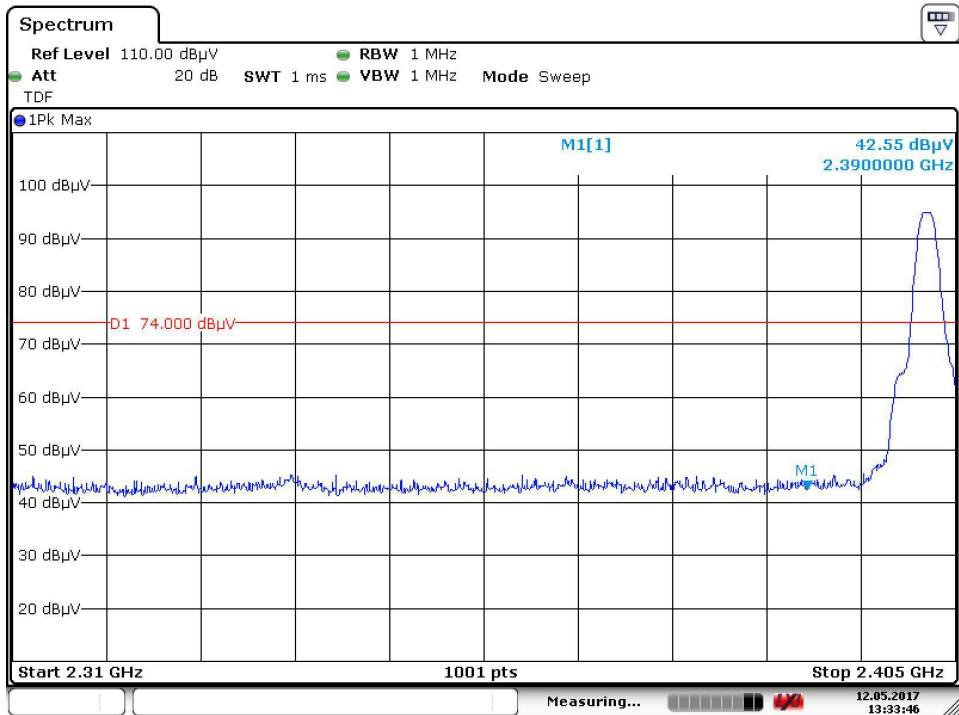
Spurious Emissions, Band Edges, 2.35-2.5G

Radiated Bandedge (GFSK)

Low Channel (Hor)

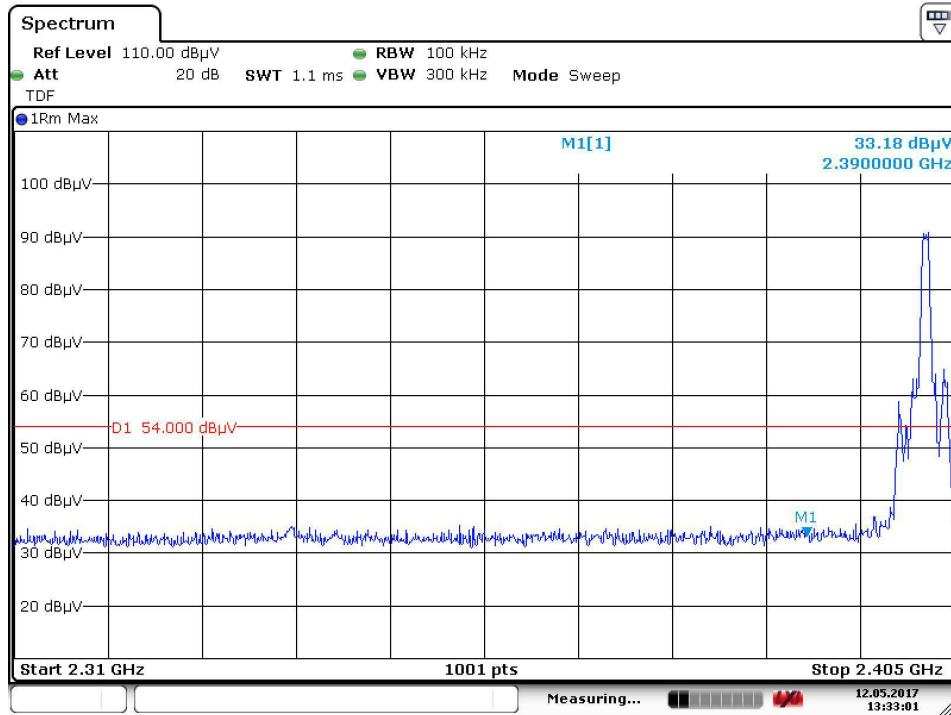


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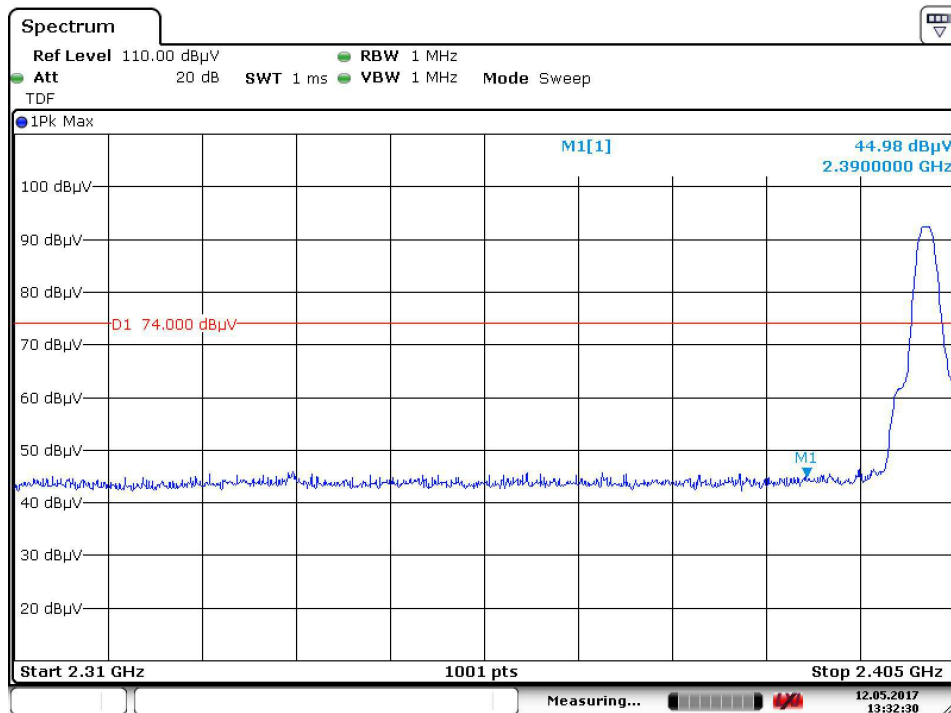


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Low Channel (Ver)



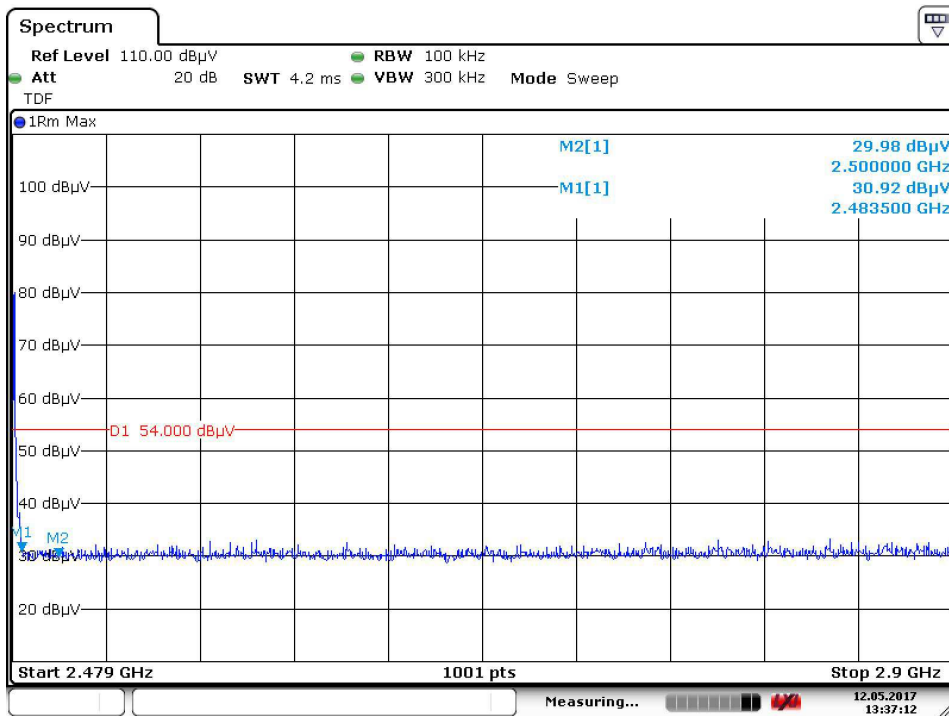
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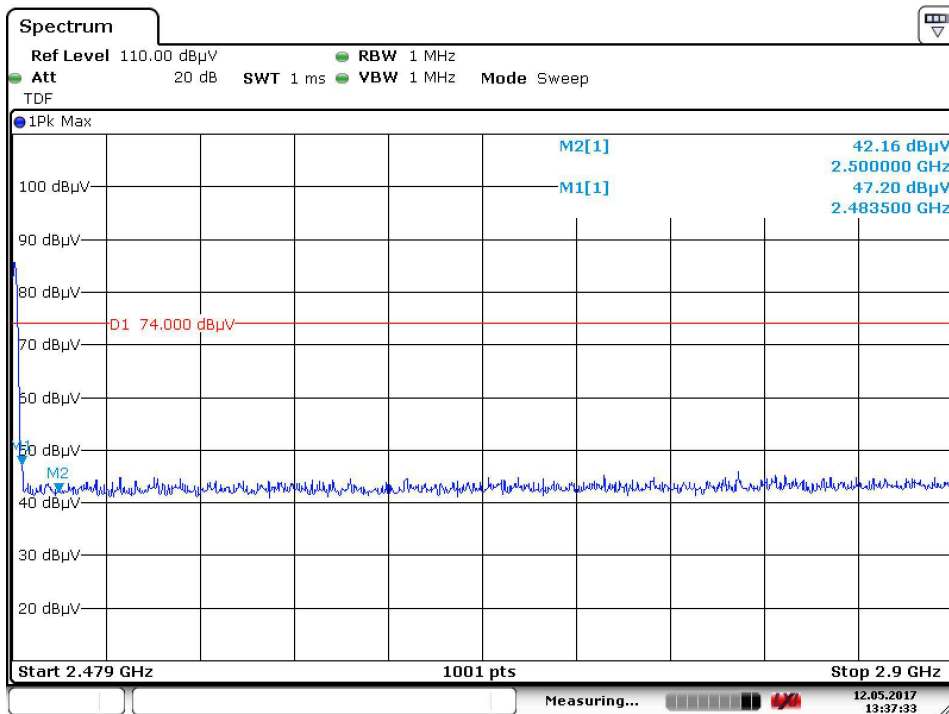
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Radiated Bandedge (GFSK)

High Channel (Hor)

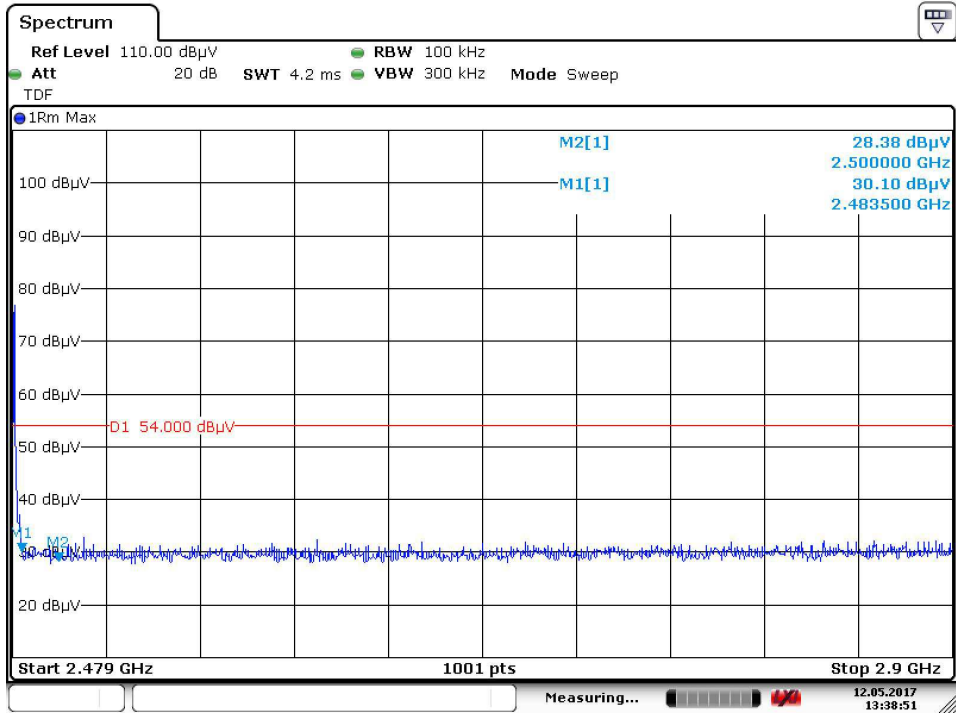


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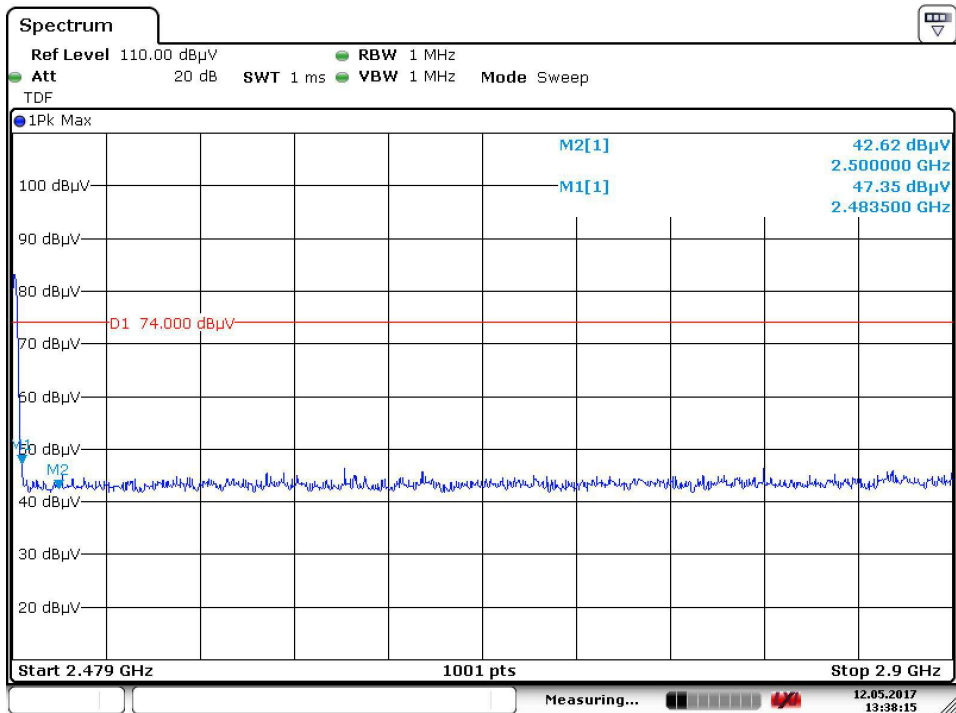


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High Channel (Ver)



Date: 12.MAY.2017 13:38:50



Date: 12.MAY.2017 13:38:15

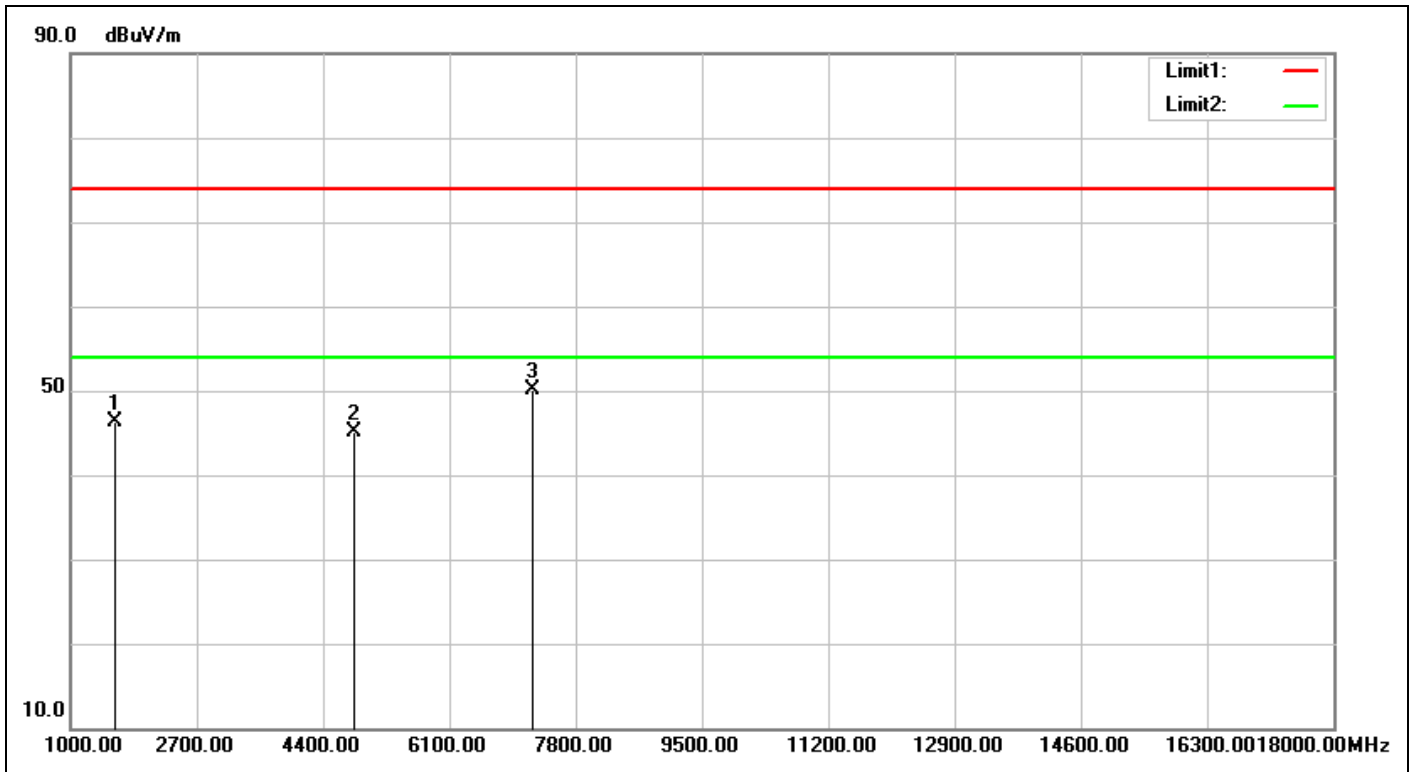
Spurious Emissions, TX Mode, 1-18G



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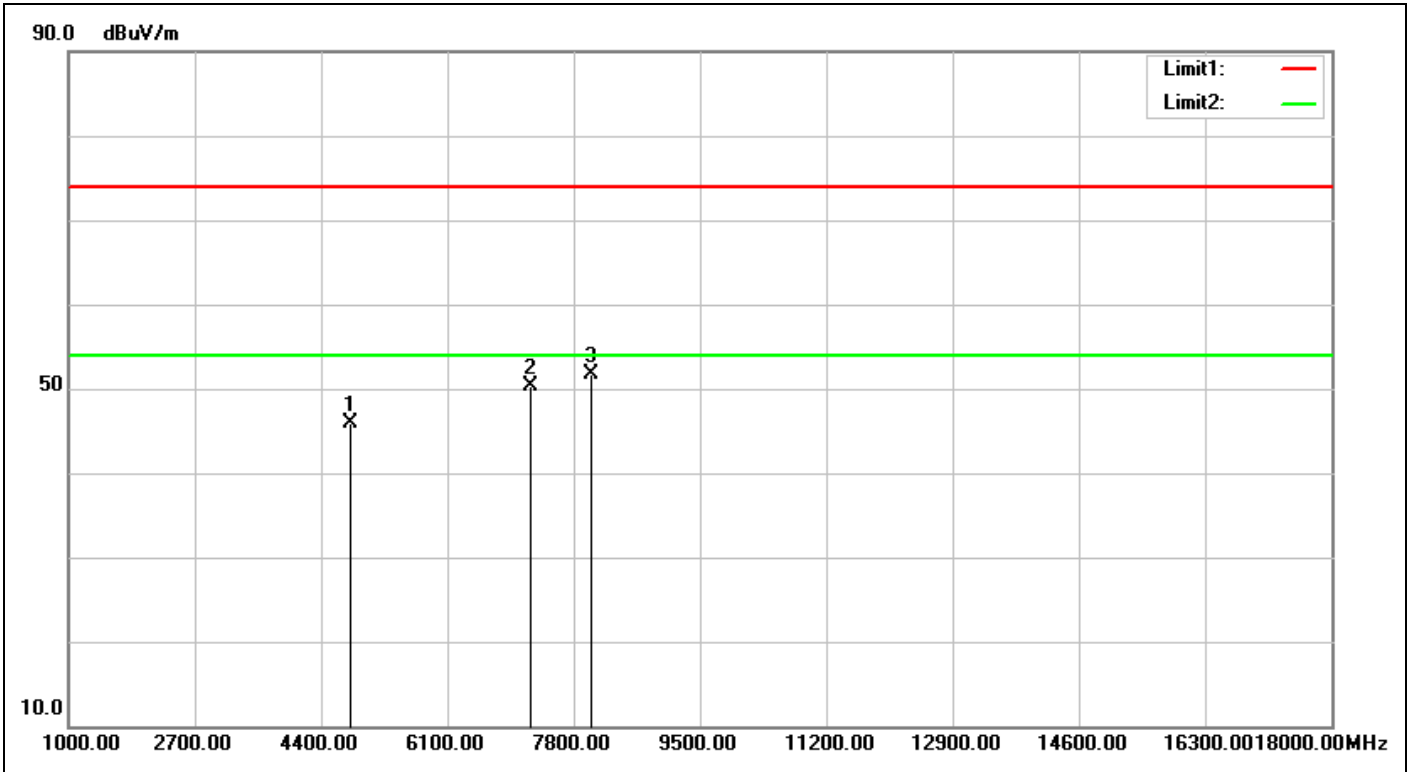
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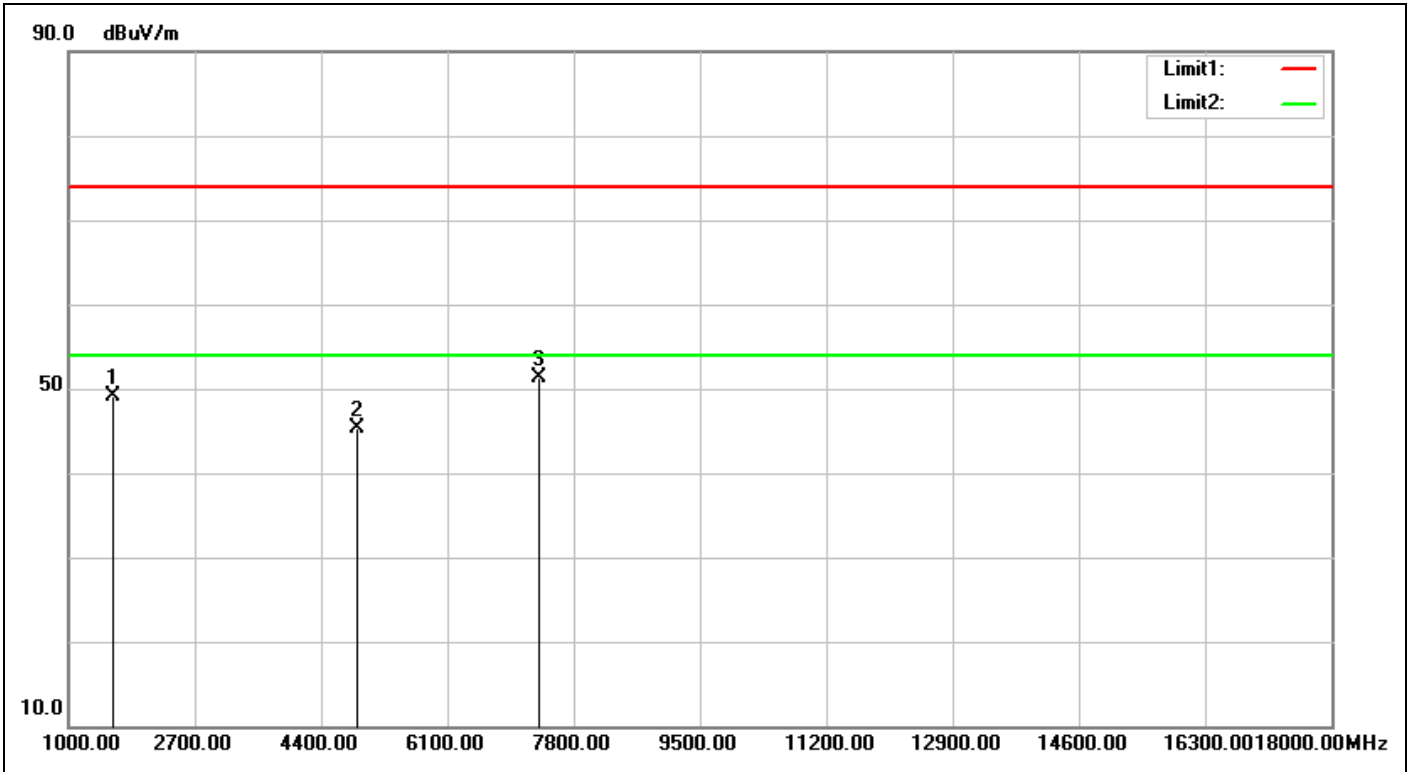
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Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/5/12 13:46:03
Applicant:	Stanley Black & Decker	Test Rating:	DC 5V
Product:	Wireless Replaceable Sensor	Temp.(°C)/Hum.(%):	26.8(°C)/55%
Model No.:	1950217	Test Engineer:	George Yang
Test Mode:	2402-TX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	1595.000	-9.71	55.99	46.28	74.00	-27.72	peak	100	114	
2	4804.000	-2.66	47.78	45.12	74.00	-28.88	peak			
3	7206.000	5.58	44.57	50.15	74.00	-23.85	peak			



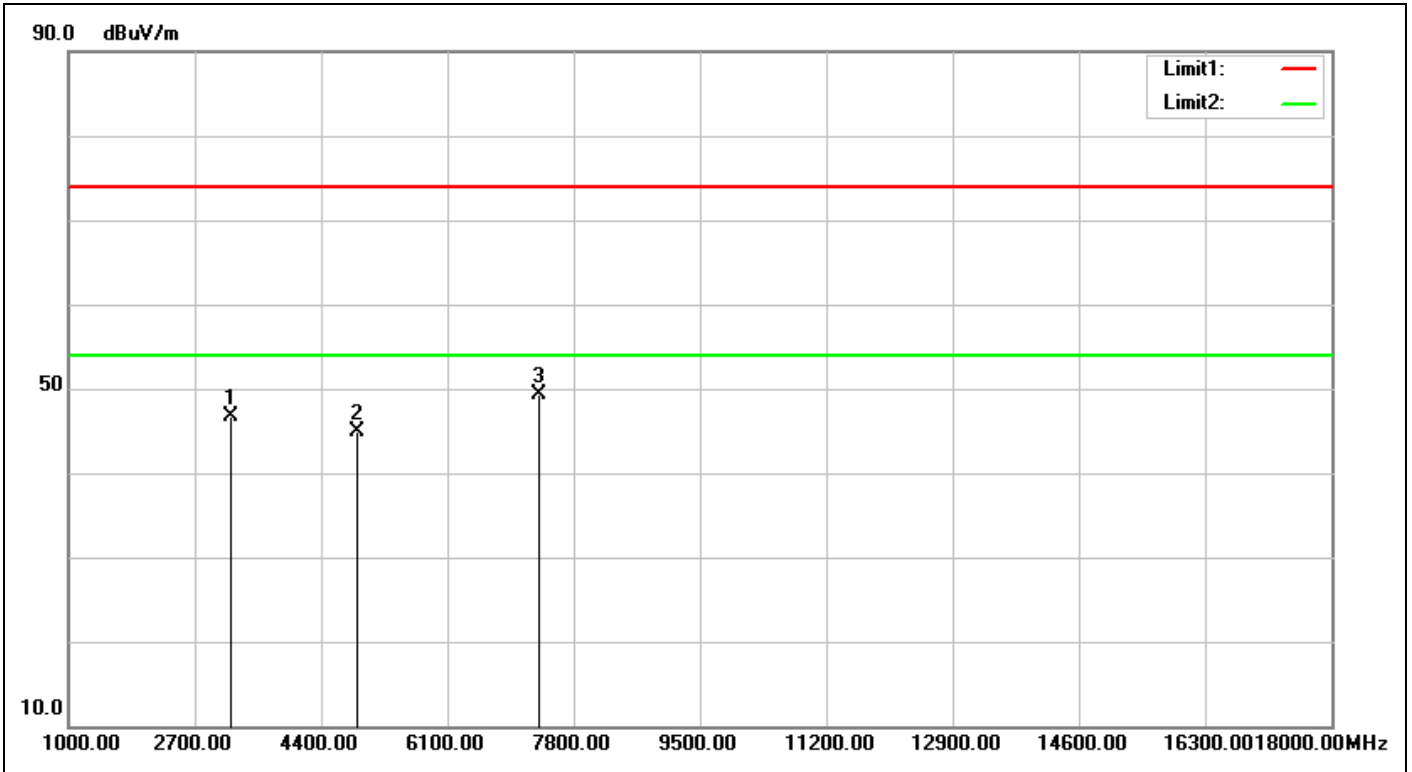
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Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/5/12 13:47:06
Applicant:	Stanley Black & Decker	Test Rating:	DC 5V
Product:	Wireless Replaceable Sensor	Temp.(°C)/Hum.(%):	26.8(°C)/55%
Model No.:	1950217	Test Engineer:	George Yang
Test Mode:	2402-TX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4804.000	-2.66	48.59	45.93	74.00	-28.07	peak			
2	7206.000	5.58	44.65	50.23	74.00	-23.77	peak			
3	8038.000	6.40	45.21	51.61	74.00	-22.39	peak	100	80	



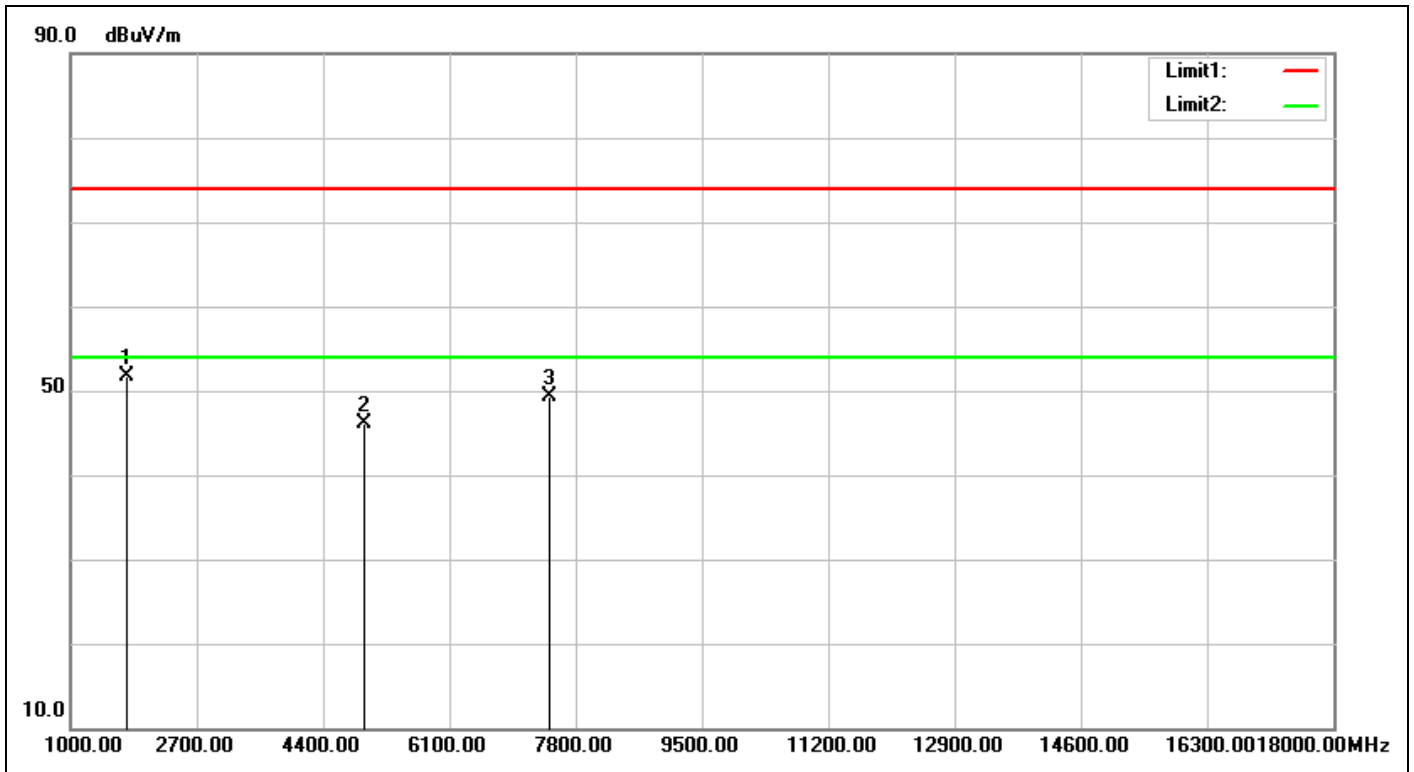
Service No.:	114060550	Test Distance:	3m
Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/5/12 13:42:15
Applicant:	Stanley Black & Decker	Test Rating:	DC 5V
Product:	Wireless Replaceable Sensor	Temp.(°C)/Hum.(%):	26.8(°C)/55%
Model No.:	1950217	Test Engineer:	George Yang
Test Mode:	2440-TX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	1595.000	-9.71	58.81	49.10	74.00	-24.90	peak	100	152	
2	4880.000	-2.48	47.79	45.31	74.00	-28.69	peak			
3	7320.000	5.93	45.28	51.21	74.00	-22.79	peak			



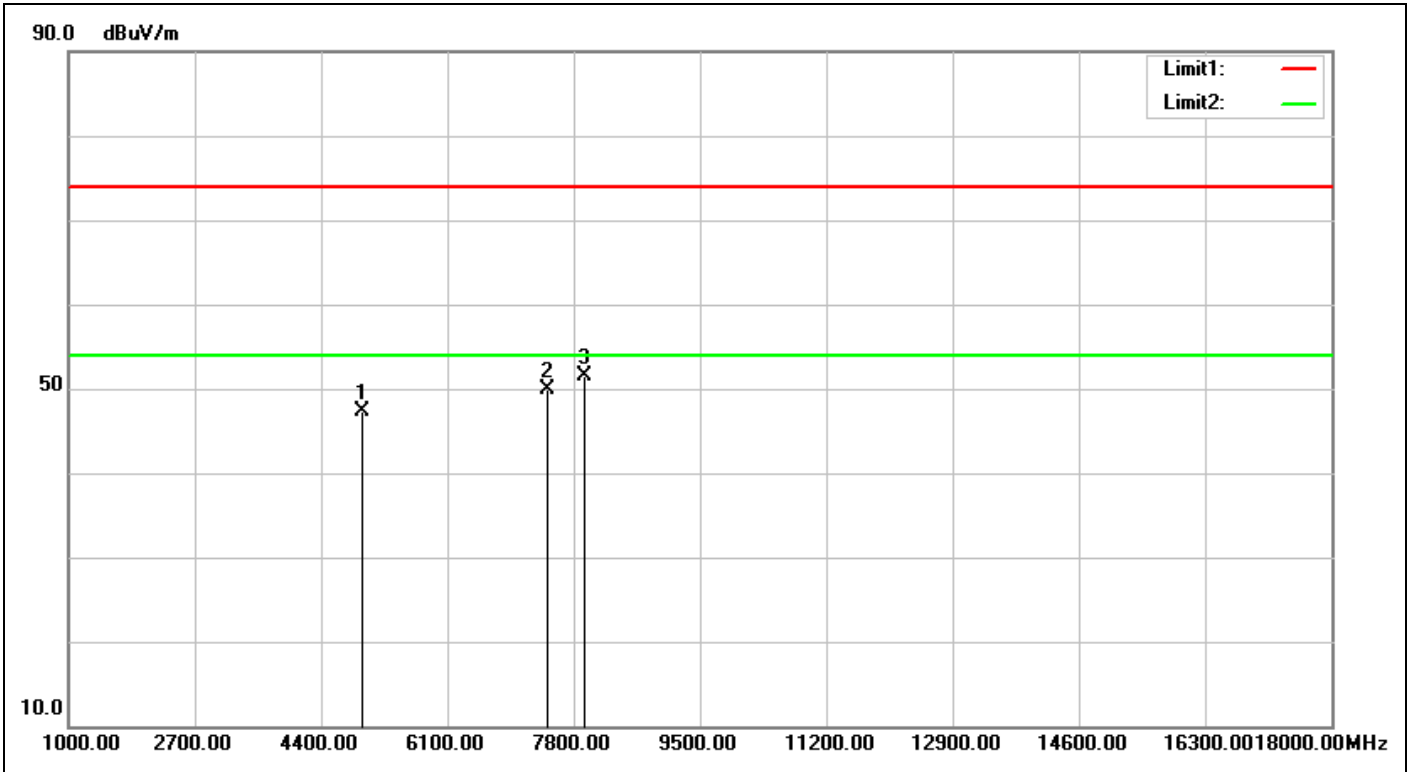
Service No.:	114060550	Test Distance:	3m
Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/5/12 13:43:17
Applicant:	Stanley Black & Decker	Test Rating:	DC 5V
Product:	Wireless Replaceable Sensor	Temp.(°C)/Hum.(%):	26.8(°C)/55%
Model No.:	1950217	Test Engineer:	George Yang
Test Mode:	2440-TX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	3193.000	-6.27	53.02	46.75	74.00	-27.25	peak	100	99	
2	4880.000	-2.48	47.45	44.97	74.00	-29.03	peak			
3	7320.000	5.93	43.33	49.26	74.00	-24.74	peak			



Service No.:	114060550	Test Distance:	3m
Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/5/12 13:38:13
Applicant:	Stanley Black & Decker	Test Rating:	DC 5V
Product:	Wireless Replaceable Sensor	Temp.(°C)/Hum.(%):	26.8(°C)/55%
Model No.:	1950217	Test Engineer:	George Yang
Test Mode:	2480-TX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	1748.000	-8.75	60.41	51.66	74.00	-22.34	peak	100	250	
2	4960.000	-2.31	48.40	46.09	74.00	-27.91	peak		0	
3	7440.000	6.28	43.10	49.38	74.00	-24.62	peak		0	



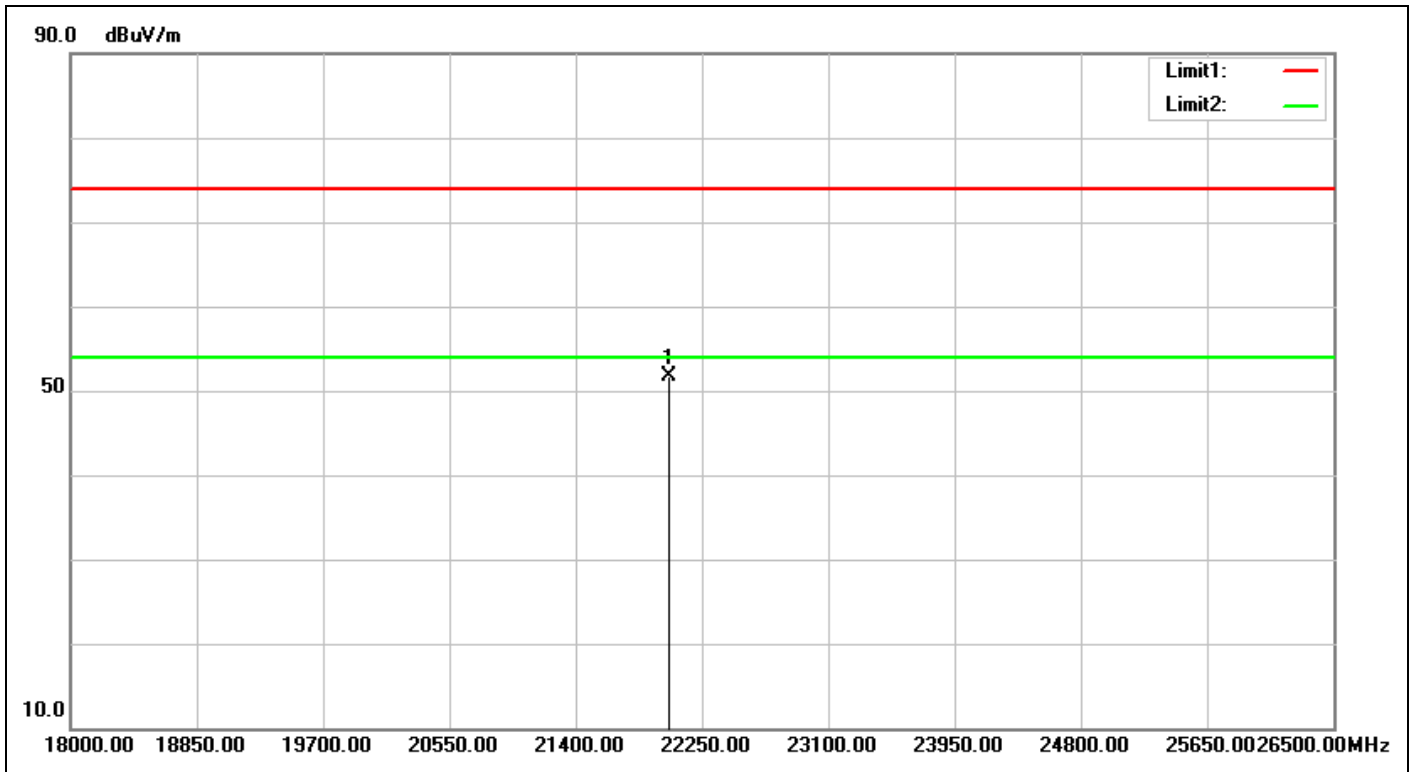
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Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/5/12 13:39:16
Applicant:	Stanley Black & Decker	Test Rating:	DC 5V
Product:	Wireless Replaceable Sensor	Temp.(°C)/Hum.(%):	26.8(°C)/55%
Model No.:	1950217	Test Engineer:	George Yang
Test Mode:	2480-TX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4960.000	-2.31	49.66	47.35	74.00	-26.65	peak			
2	7440.000	6.28	43.58	49.86	74.00	-24.14	peak			
3	7936.000	6.40	45.10	51.50	74.00	-22.50	peak	100	144	

Spurious Emissions, TX Mode, 18-26G

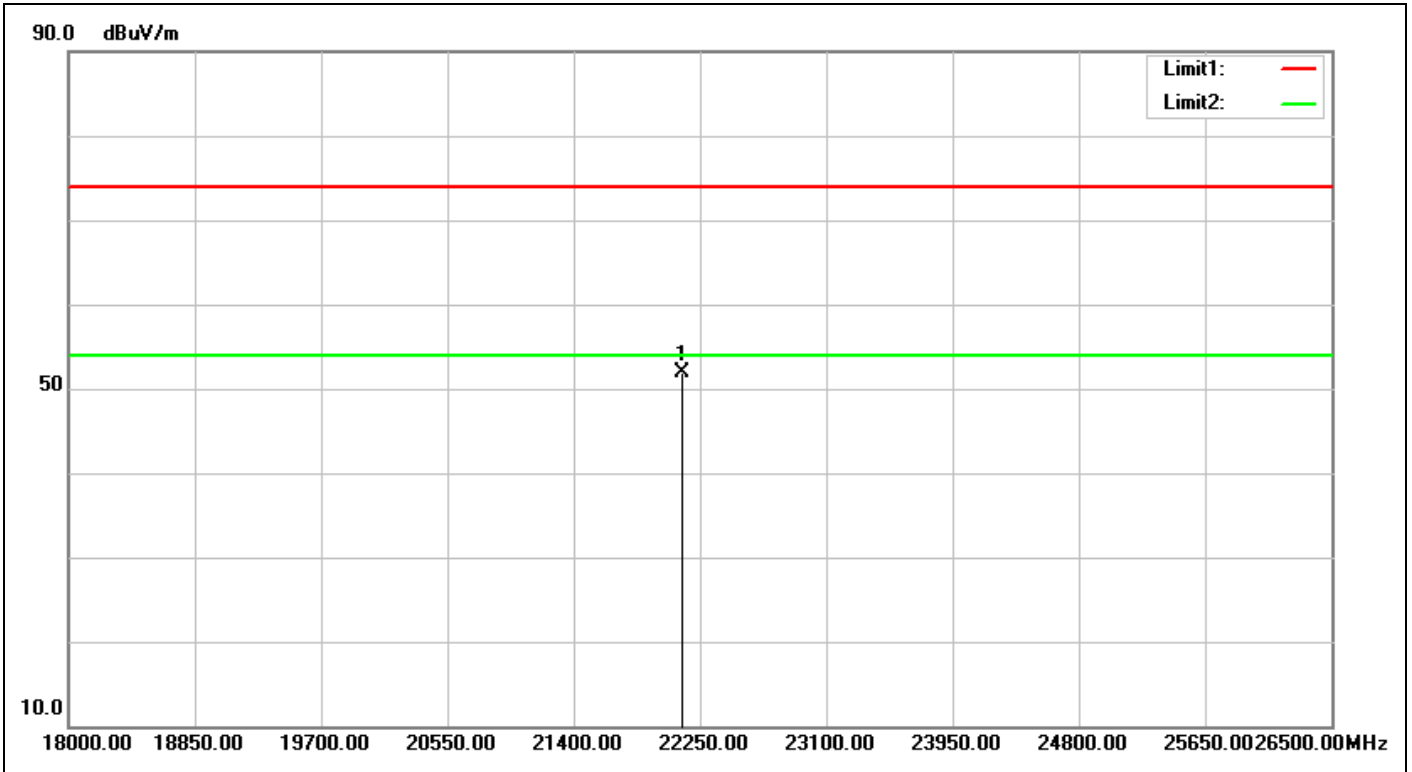


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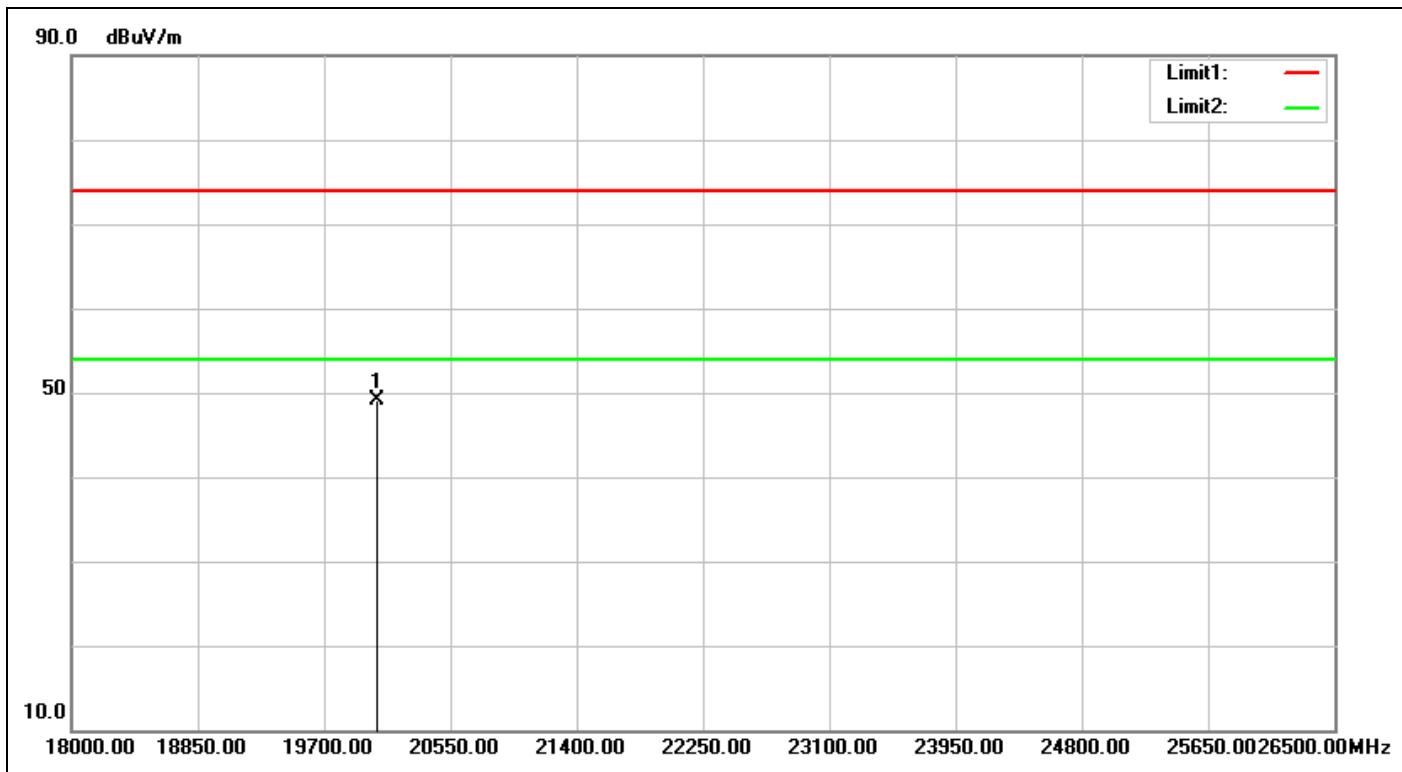
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Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/5/12 13:57:30
Applicant:	Stanley Black & Decker	Test Rating:	DC 5V
Product:	Wireless Replaceable Sensor	Temp.(°C)/Hum.(%):	26.8(°C)/55%
Model No.:	1950217	Test Engineer:	George Yang
Test Mode:	2402-TX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	22029.000	33.09	18.65	51.74	74.00	-22.26	peak			



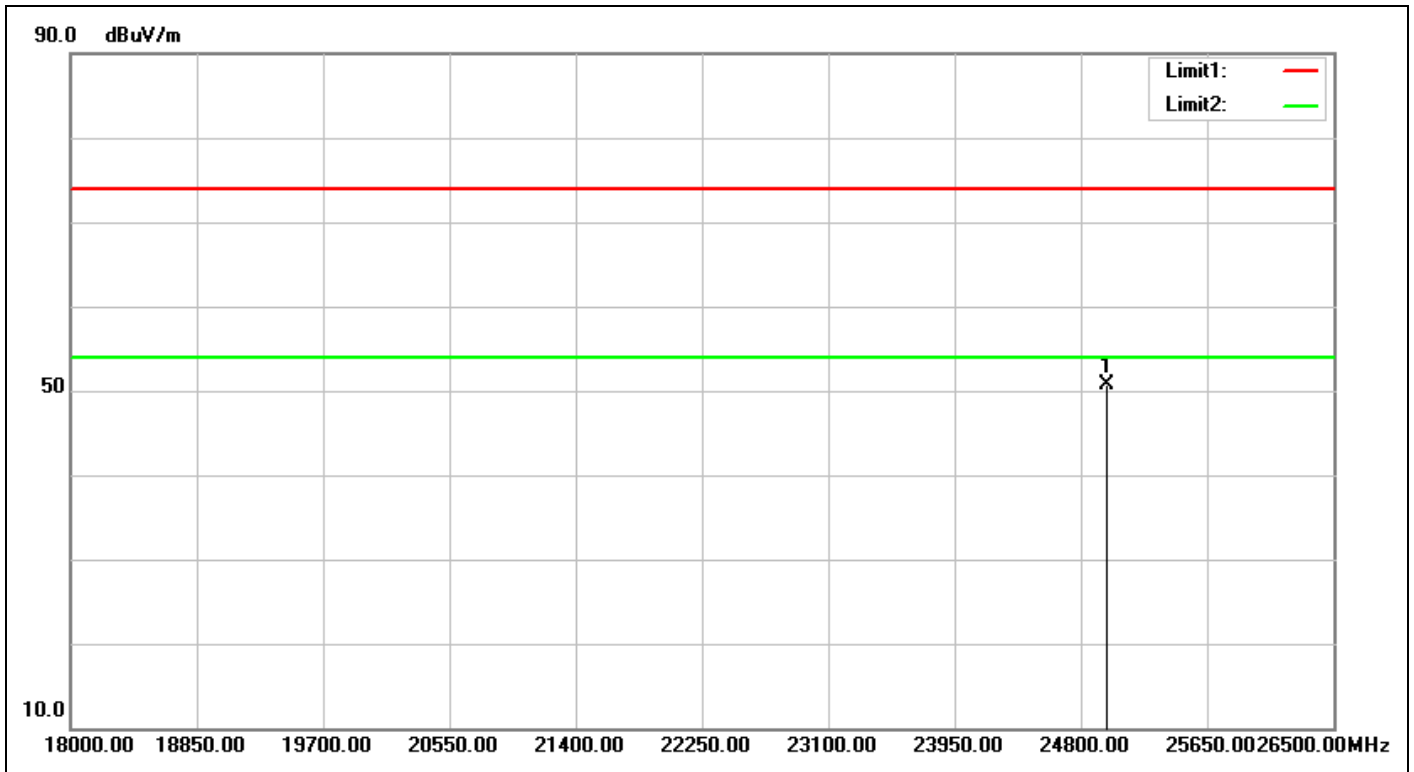
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Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/5/12 13:57:41
Applicant:	Stanley Black & Decker	Test Rating:	DC 5V
Product:	Wireless Replaceable Sensor	Temp.(°C)/Hum.(%):	26.8(°C)/55%
Model No.:	1950217	Test Engineer:	George Yang
Test Mode:	2402-TX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	22131.000	33.04	18.88	51.92	74.00	-22.08	peak			



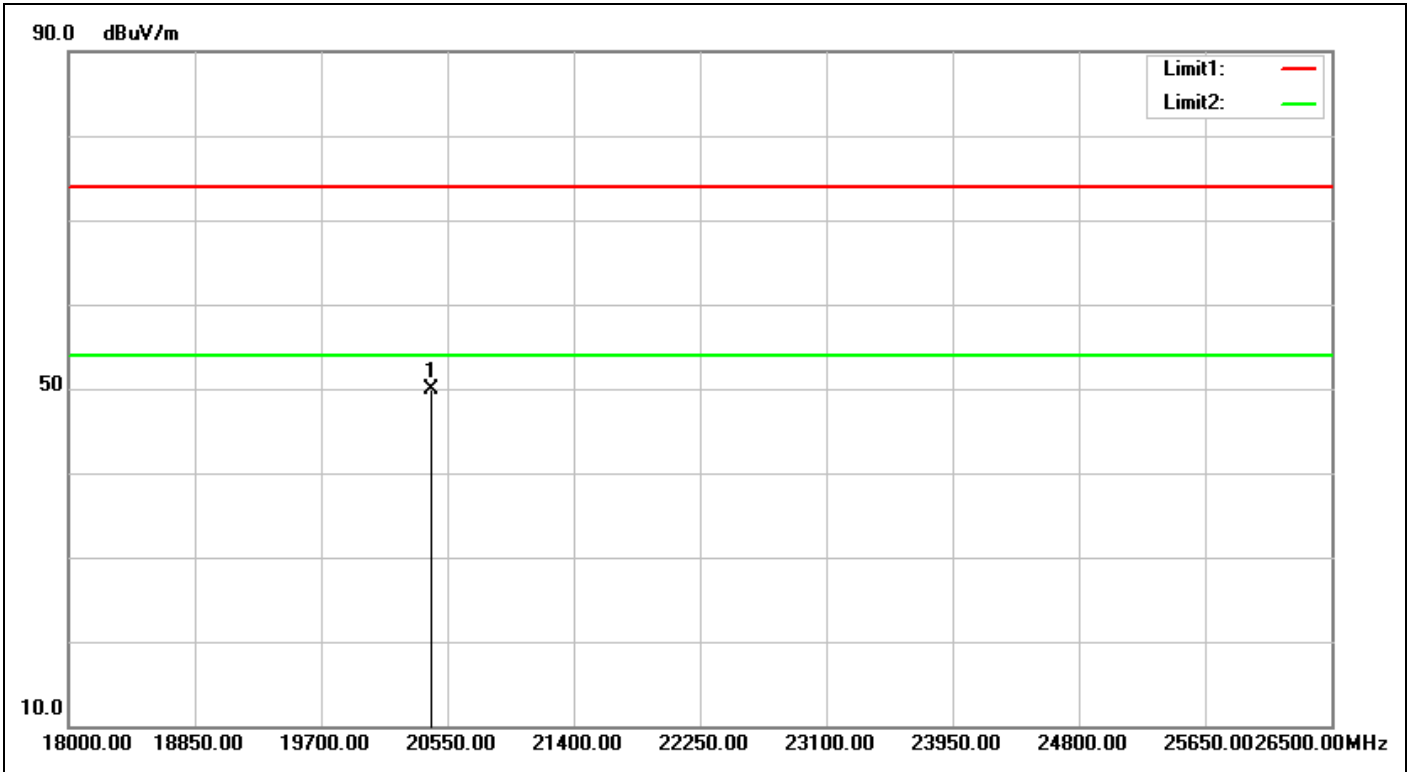
Service No.:	114060550	Test Distance:	3m
Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/5/12 13:57:57
Applicant:	Stanley Black & Decker	Test Rating:	DC 5V
Product:	Wireless Replaceable Sensor	Temp.(°C)/Hum.(%):	26.8(°C)/55%
Model No.:	1950217	Test Engineer:	George Yang
Test Mode:	2440-TX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	20057.000	31.50	17.59	49.09	74.00	-24.91	peak			



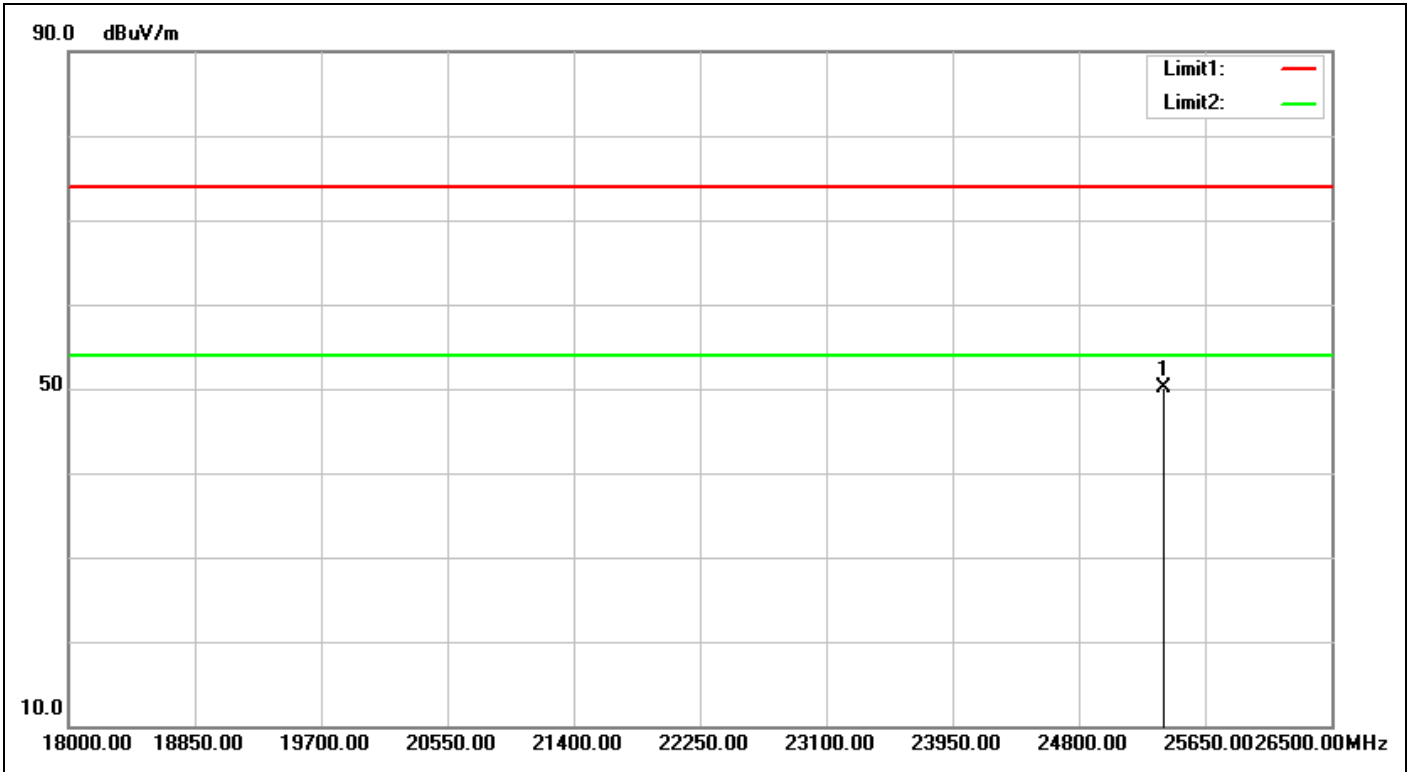
Service No.:	114060550	Test Distance:	3m
Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/5/12 13:58:04
Applicant:	Stanley Black & Decker	Test Rating:	DC 5V
Product:	Wireless Replaceable Sensor	Temp.(°C)/Hum.(%):	26.8(°C)/55%
Model No.:	1950217	Test Engineer:	George Yang
Test Mode:	2440-TX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	24978.500	33.97	16.65	50.62	74.00	-23.38	peak			



Service No.:	114060550	Test Distance:	3m
Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/5/12 13:58:18
Applicant:	Stanley Black & Decker	Test Rating:	DC 5V
Product:	Wireless Replaceable Sensor	Temp.(°C)/Hum.(%):	26.8(°C)/55%
Model No.:	1950217	Test Engineer:	George Yang
Test Mode:	2480-TX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	20439.500	31.71	18.19	49.90	74.00	-24.10	peak			



Service No.:	114060550	Test Distance:	3m
Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/5/12 13:58:28
Applicant:	Stanley Black & Decker	Test Rating:	DC 5V
Product:	Wireless Replaceable Sensor	Temp.(°C)/Hum.(%):	26.8(°C)/55%
Model No.:	1950217	Test Engineer:	George Yang
Test Mode:	2480-TX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	25369.500	34.86	15.30	50.16	74.00	-23.84	peak			

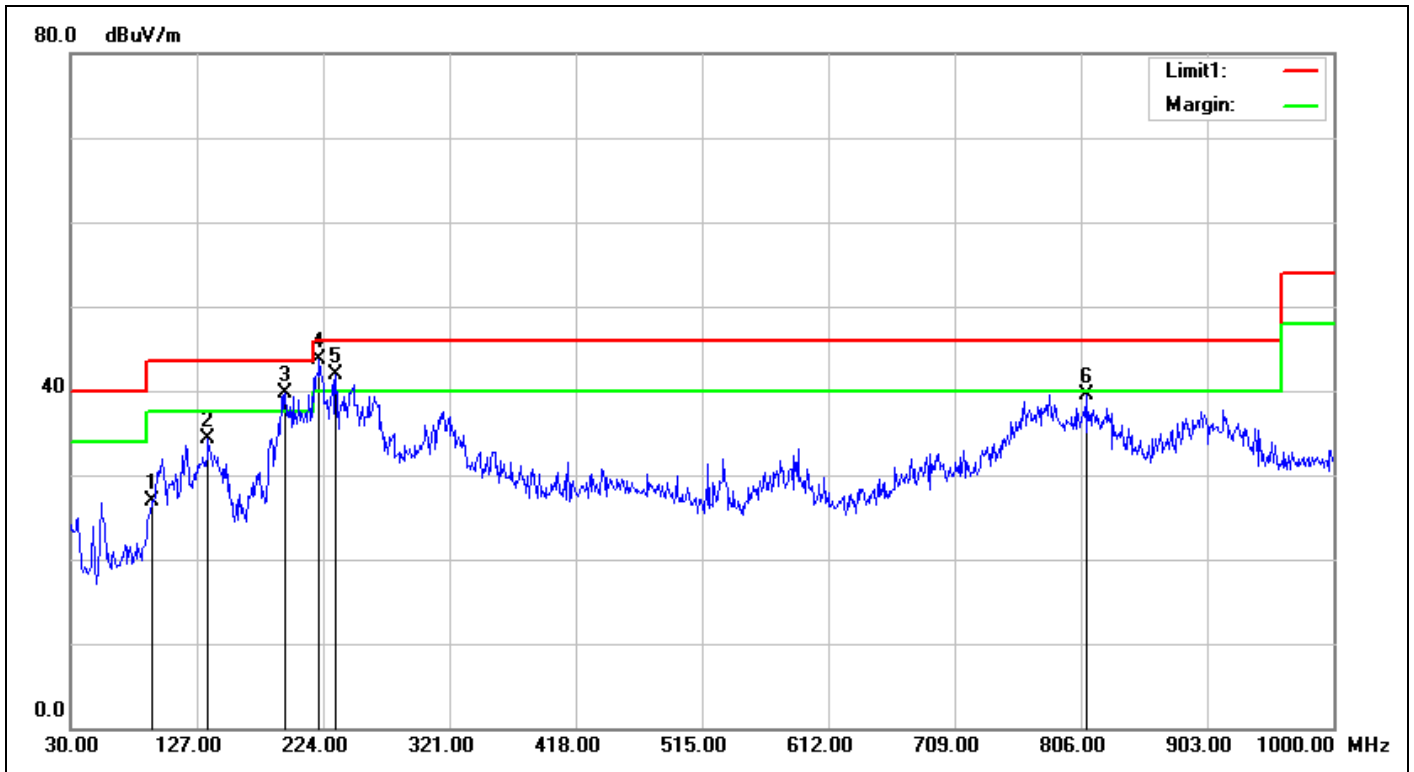
Spurious Emissions, TX Mode, 30M-1G



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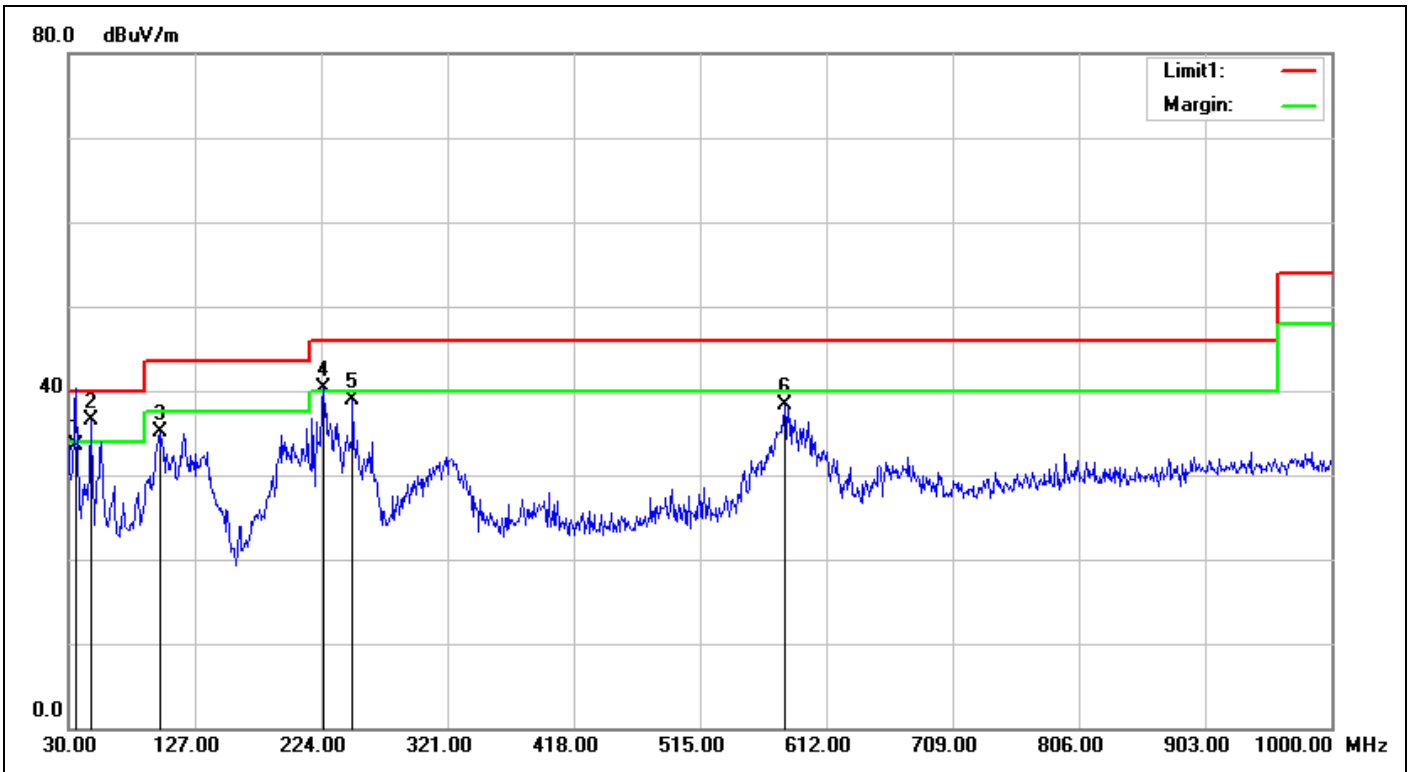
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Service No.:	114060550	Test Distance:	3m
Test Standard:	FCC Class B 3M Radiation	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2017/5/12 14:20:44
Applicant:	Stanley Black & Decker	Test Rating:	DC 5V
Product:	Wireless Replaceable Sensor	Temp.(°C)/Hum.(%):	26.8(°C)/55%
Model No.:	1950217	Test Engineer:	George Yang
Test Mode:	2440-TX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	93.0500	-10.43	37.25	26.82	43.50	-16.68	QP	100	141	
2	135.7300	-6.99	41.22	34.23	43.50	-9.27	QP	100	40	
3	194.9000	-9.24	49.00	39.76	43.50	-3.74	QP	100	109	
4	221.0900	-8.21	51.83	43.62	46.00	-2.38	QP	100	324	
5	233.7000	-7.22	49.07	41.85	46.00	-4.15	QP	100	340	
6	809.8800	2.99	36.51	39.50	46.00	-6.50	QP	100	360	



Service No.:	114060550	Test Distance:	3m
Test Standard:	FCC Class B 3M Radiation	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2017/5/12 14:21:48
Applicant:	Stanley Black & Decker	Test Rating:	DC 5V
Product:	Wireless Replaceable Sensor	Temp.(°C)/Hum.(%):	26.8(°C)/55%
Model No.:	1950217	Test Engineer:	George Yang
Test Mode:	2440-TX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	35.8200	-3.41	36.91	33.50	40.00	-6.50	QP	100	115	
2	47.4600	-9.93	46.43	36.50	40.00	-3.50	QP	100	115	
3	100.8100	-9.36	44.52	35.16	43.50	-8.34	QP	100	136	
4	225.9400	-7.84	48.19	40.35	46.00	-5.65	QP	100	74	
5	248.2500	-5.90	44.86	38.96	46.00	-7.04	QP	100	92	
6	579.9900	-0.31	38.61	38.30	46.00	-7.70	QP	100	152	

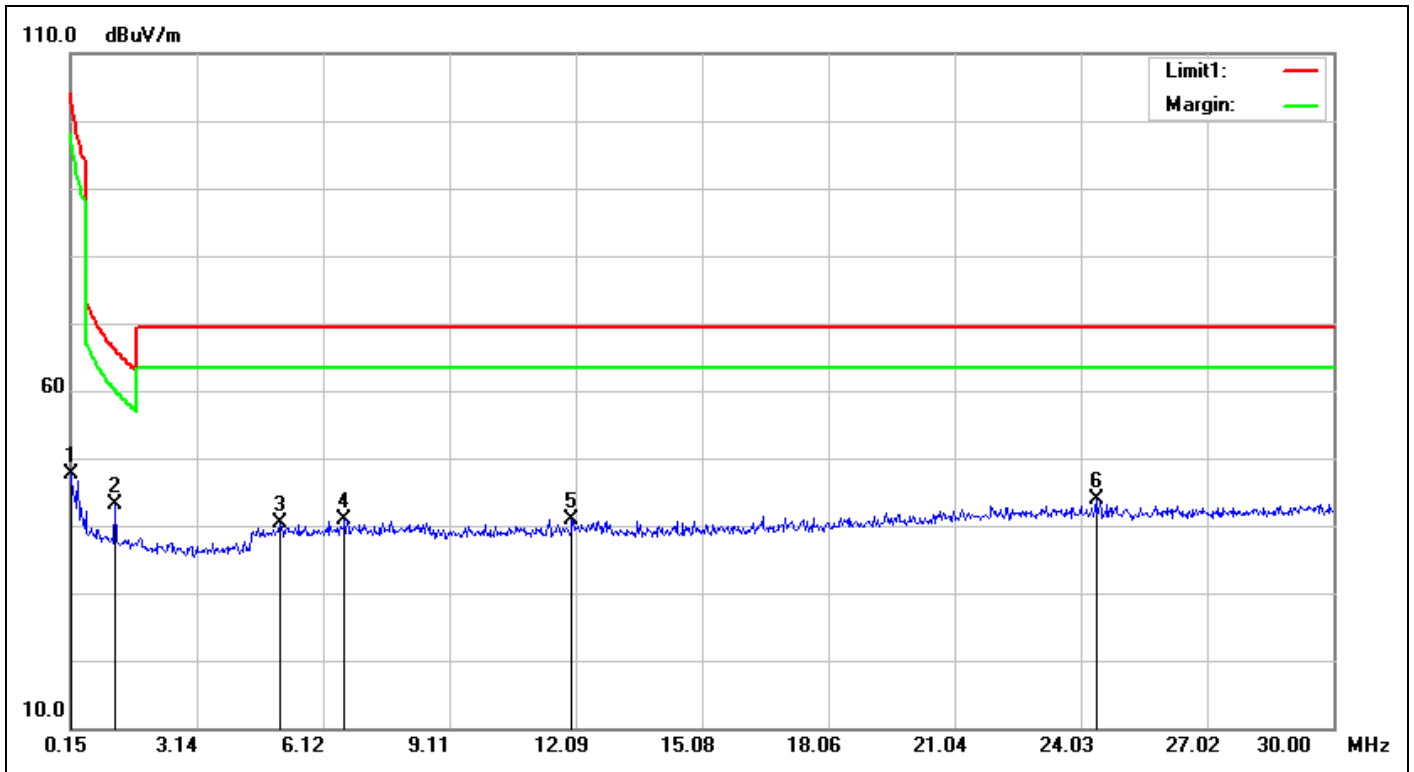
Spurious Emissions, TX Mode, 150K-30M



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Service No.:	114060550	Test Distance:	3m
Test Standard:	FCC15.209_9k-1G_3m	Ant. Polarization:	
Test item:	Radiation Emission	Test Time:	2017/5/12 14:35:22
Applicant:	Stanley Black & Decker	Test Rating:	DC 5V
Product:	Wireless Replaceable Sensor	Temp.(°C)/Hum.(%):	26.8(°C)/55%
Model No.:	1950217	Test Engineer:	George Yang
Test Mode:	2440-TX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.1798	18.77	28.88	47.65	102.50	-54.85	peak	100	125	
2	1.1947	19.04	24.17	43.21	66.08	-22.87	peak	100	111	
3	5.1051	19.62	20.86	40.48	69.50	-29.02	peak	100	347	
4	6.6274	19.86	21.05	40.91	69.50	-28.59	peak	100	150	
5	12.0004	20.62	20.16	40.78	69.50	-28.72	peak	100	332	
6	24.3882	21.87	21.91	43.78	69.50	-25.72	peak	100	292	

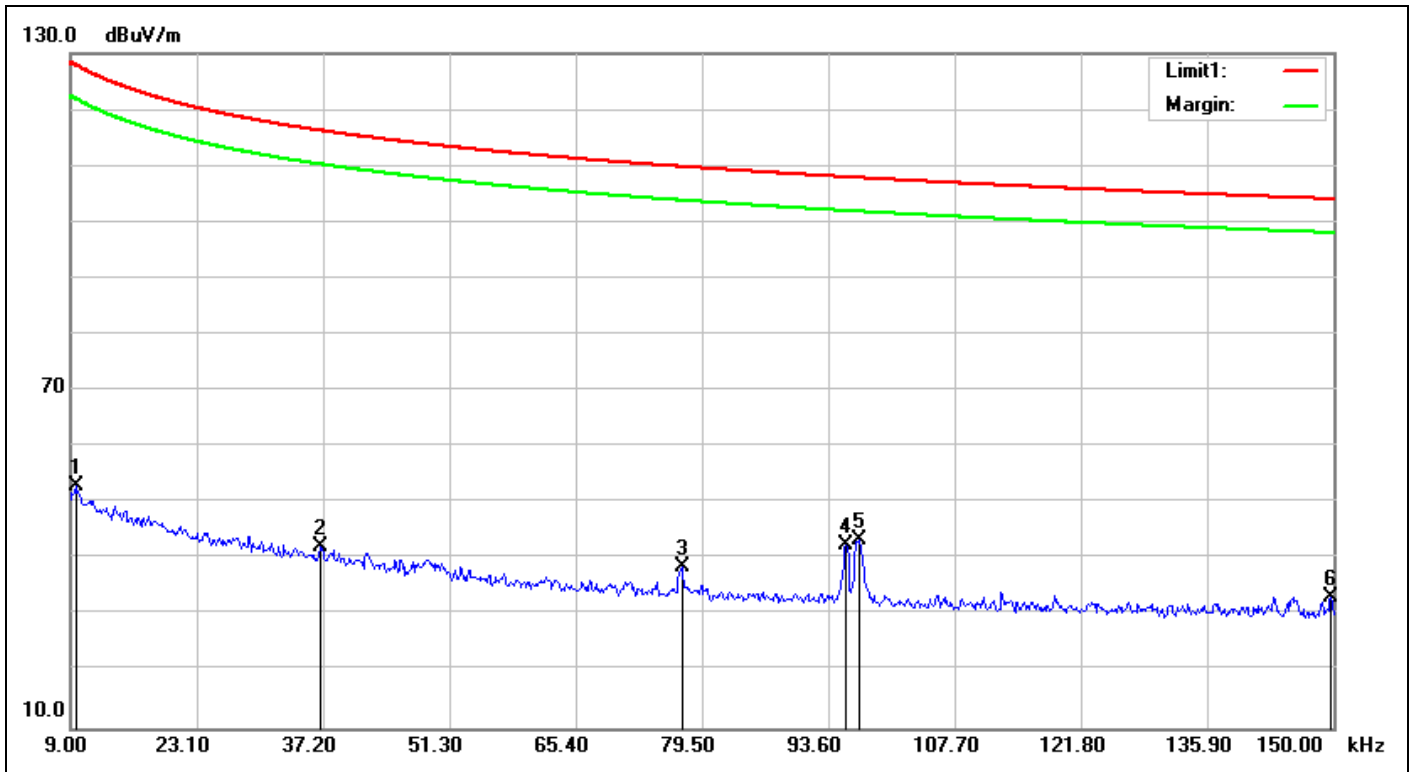
Spurious Emissions, TX Mode, 9K-150K



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Service No.:	114060550	Test Distance:	3m
Test Standard:	FCC15.209_9k-1G_3m	Ant. Polarization:	
Test item:	Radiation Emission	Test Time:	2017/5/12 14:32:05
Applicant:	Stanley Black & Decker	Test Rating:	DC 5V
Product:	Wireless Replaceable Sensor	Temp.(°C)/Hum.(%):	26.8(°C)/55%
Model No.:	1950217	Test Engineer:	George Yang
Test Mode:	2440-TX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	0.0095	19.93	33.05	52.98	128.03	-75.05	QP	100	285	
2	0.0369	19.88	22.35	42.23	116.25	-74.02	QP	100	96	
3	0.0772	19.01	19.52	38.53	109.84	-71.31	QP	100	139	
4	0.0955	18.88	23.69	42.57	108.00	-65.43	QP	100	360	
5	0.0969	18.86	24.56	43.42	107.87	-64.45	QP	100	179	
6	0.1497	18.80	14.55	33.35	104.09	-70.74	QP	100	83	