

Test Report No.10041626 001

Appendix D: Radiated Spurious Emission Data

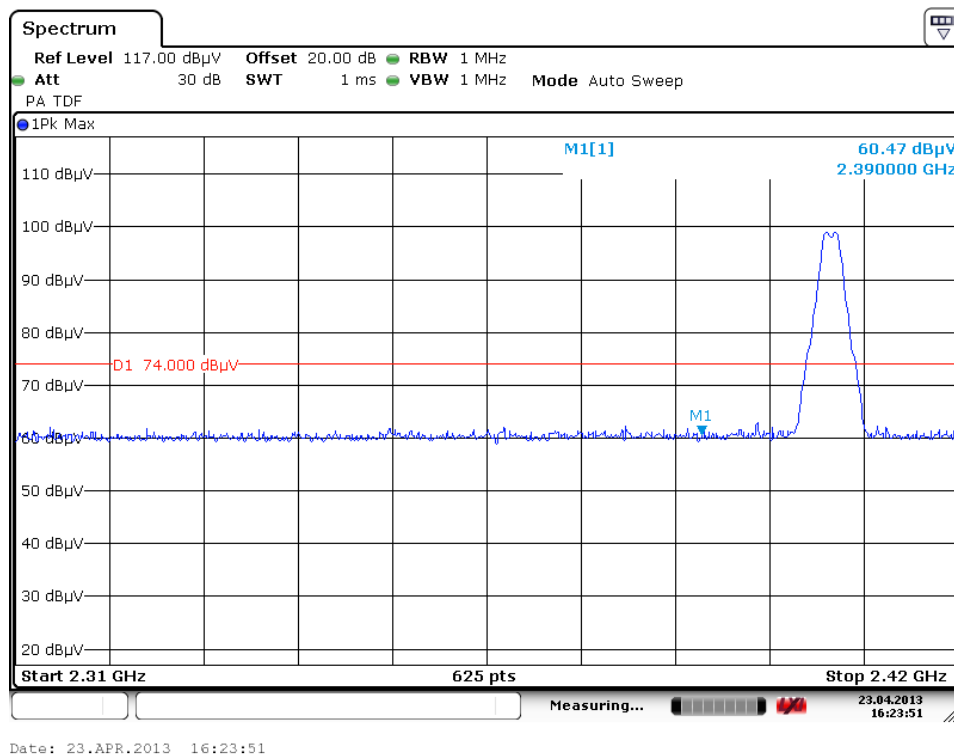
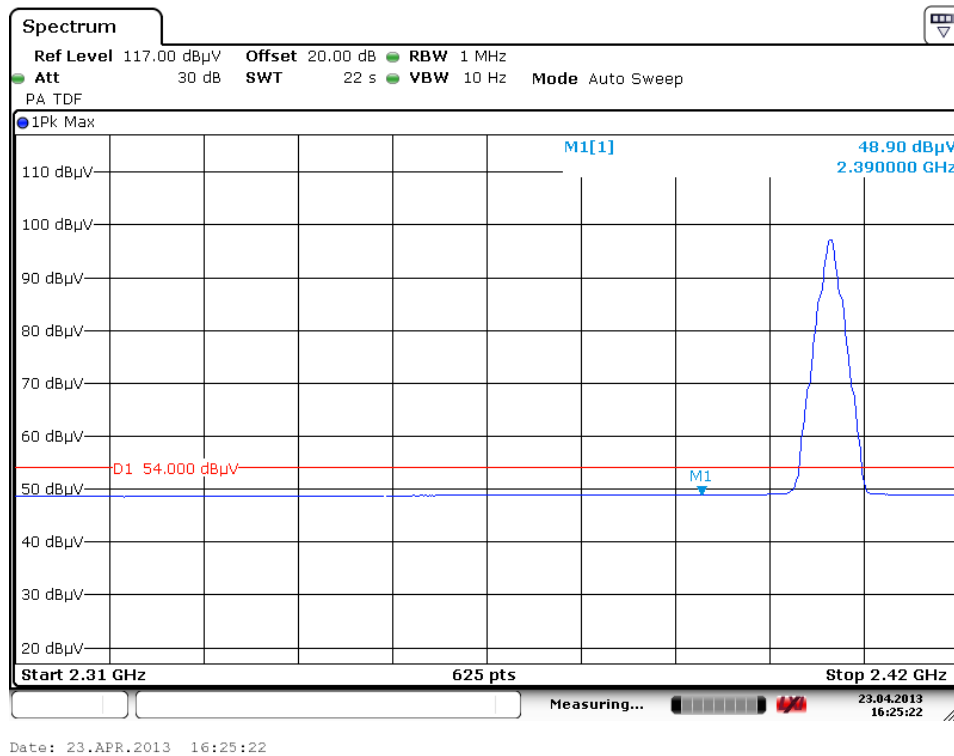
(File: 10041626AppendixD)

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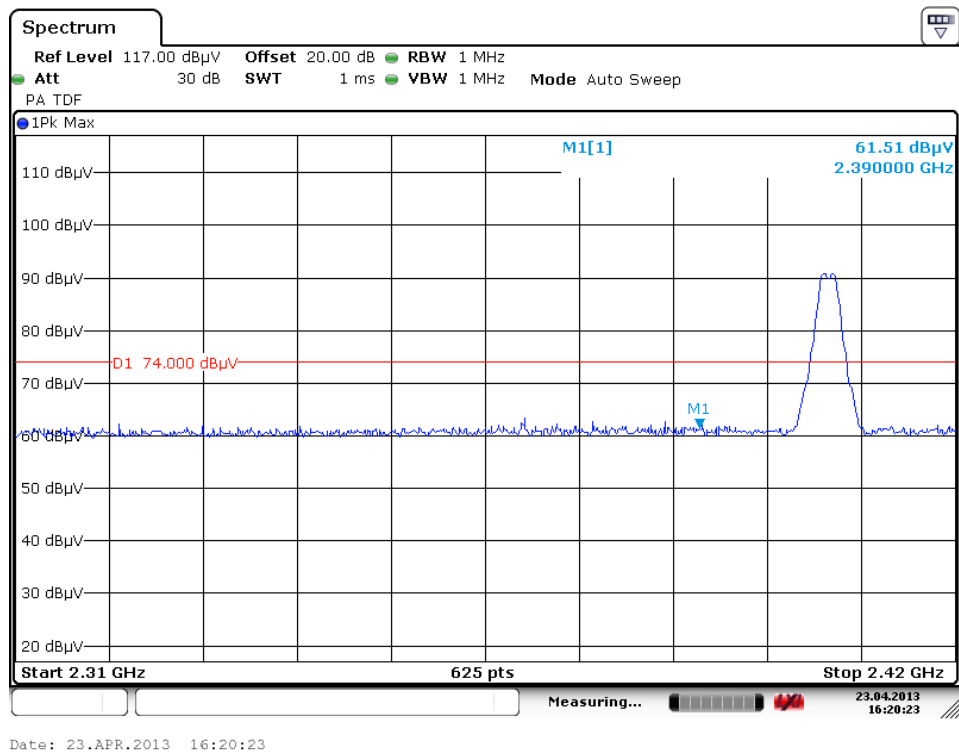
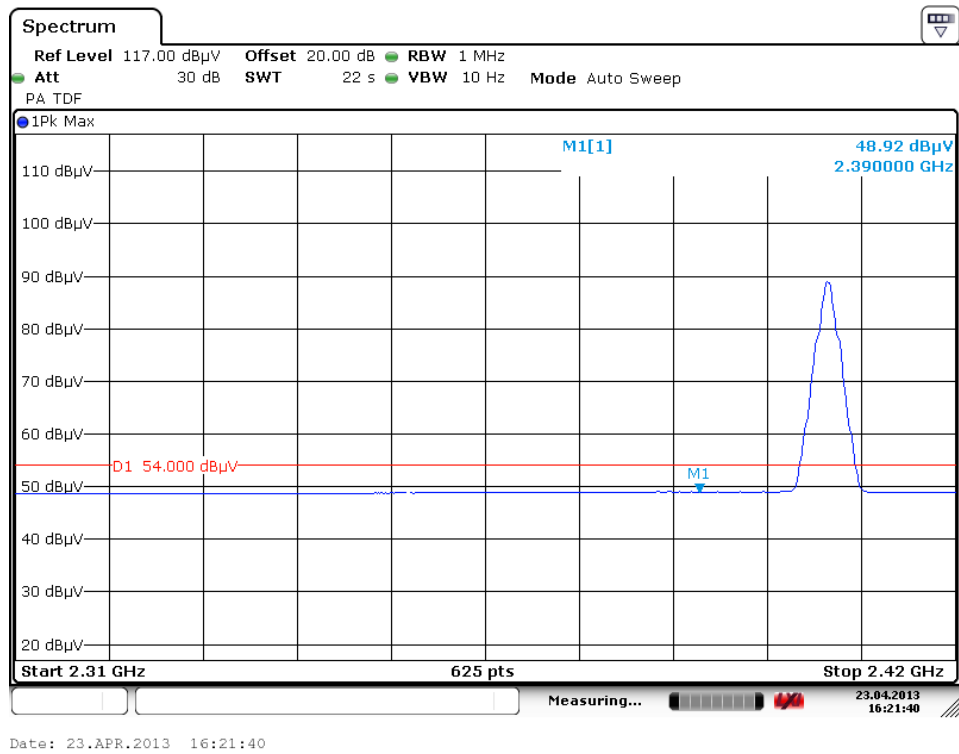
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Radiated Bandedge

Low Channel (Hor)



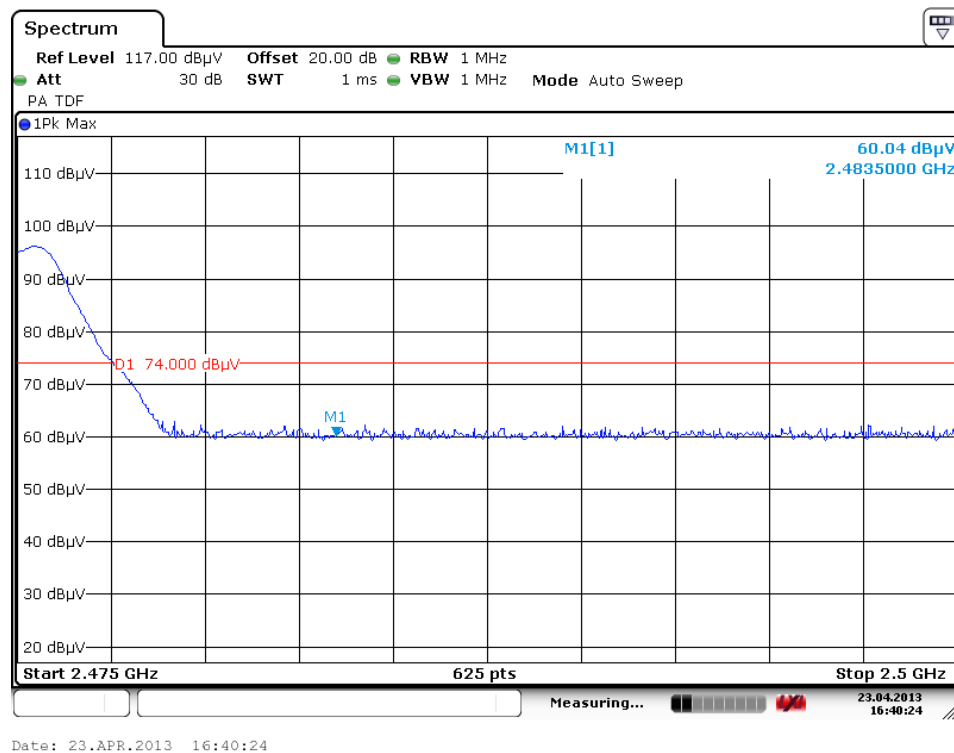
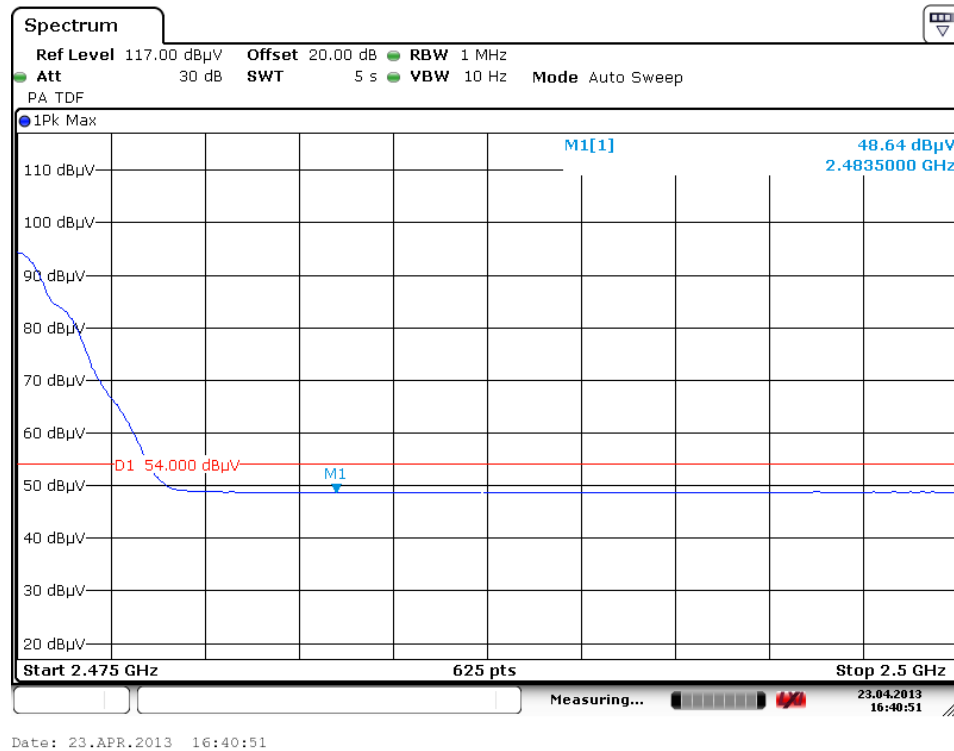
Low Channel (Ver)



Spurious Emissions, Band Edge, 2.35-2.5G

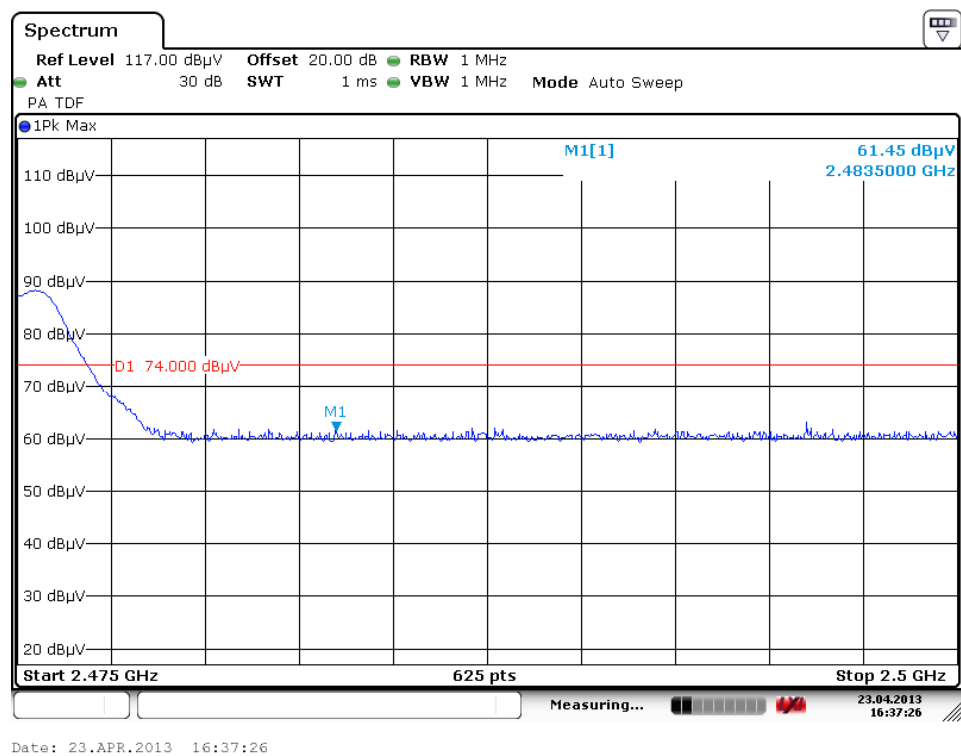
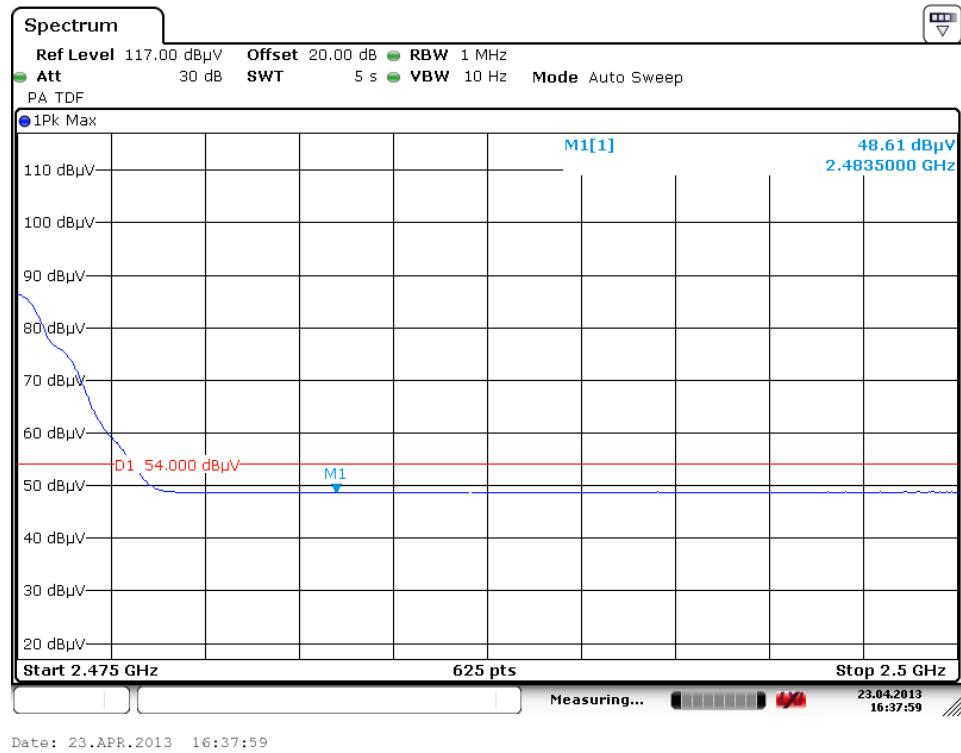
Radiated Bandedge

High Channel (Hor) 2475



Spurious Emissions, Band Edge, 2.35-2.5G

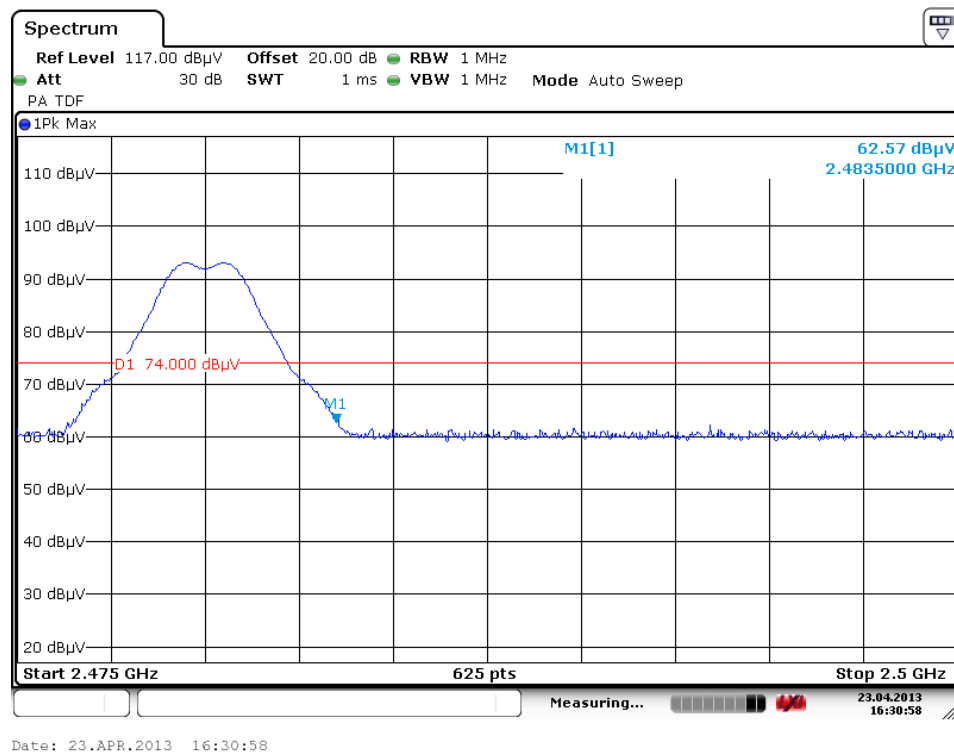
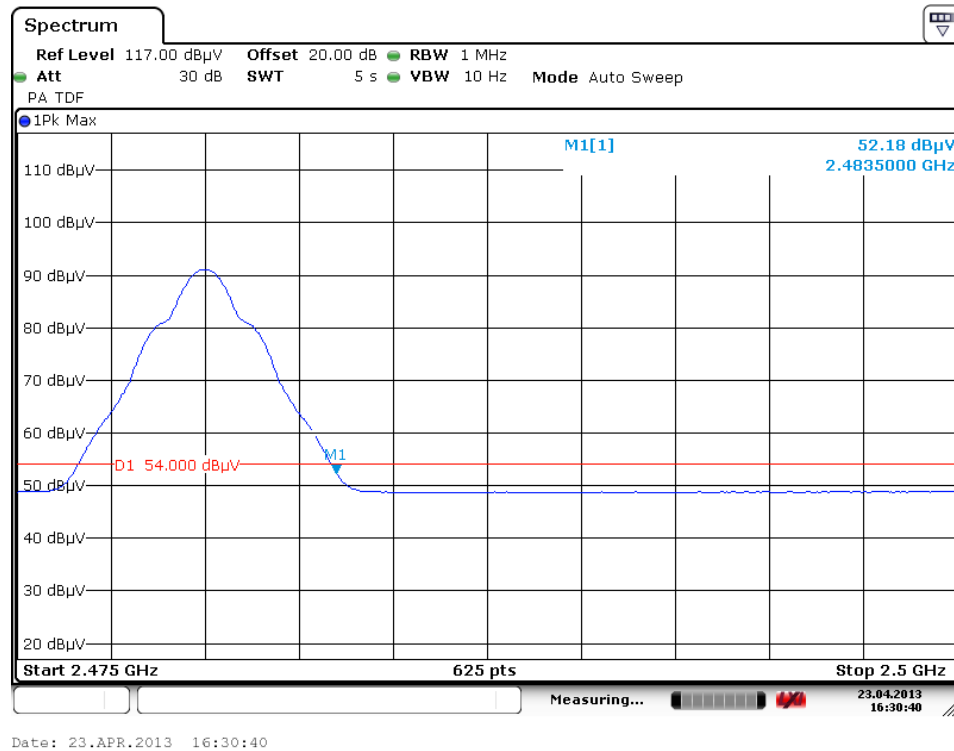
High Channel (Ver) 2475



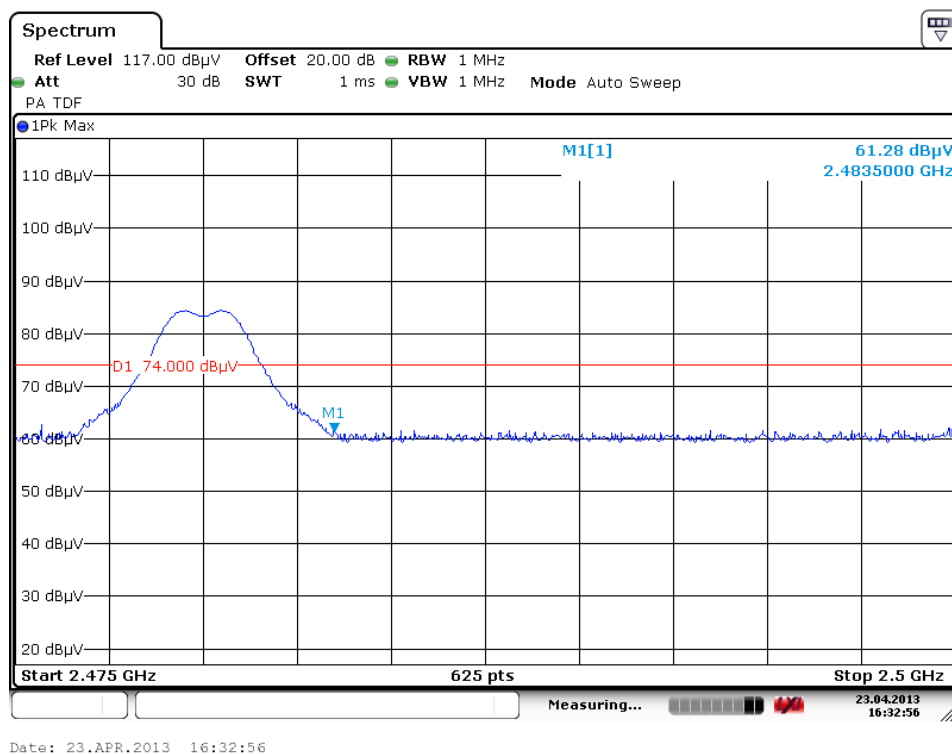
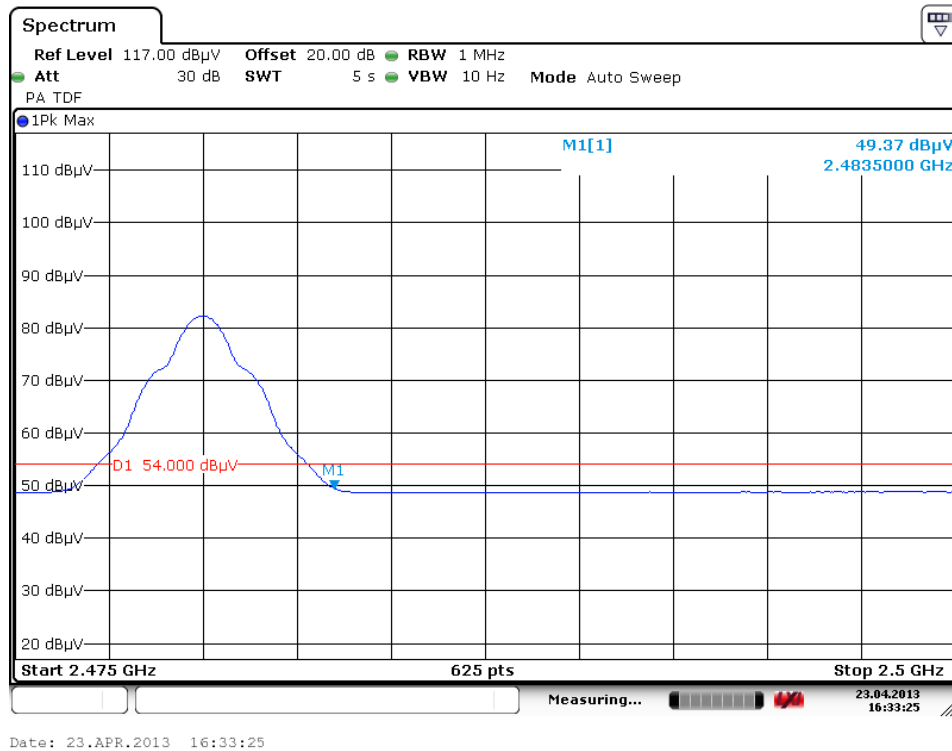
Spurious Emissions, Band Edge, 2.35-2.5G

Radiated Bandedge

High Channel (Hor) 2480



High Channel (Ver) 2480



Spurious Emissions, Band Edge, 2.35-2.5G

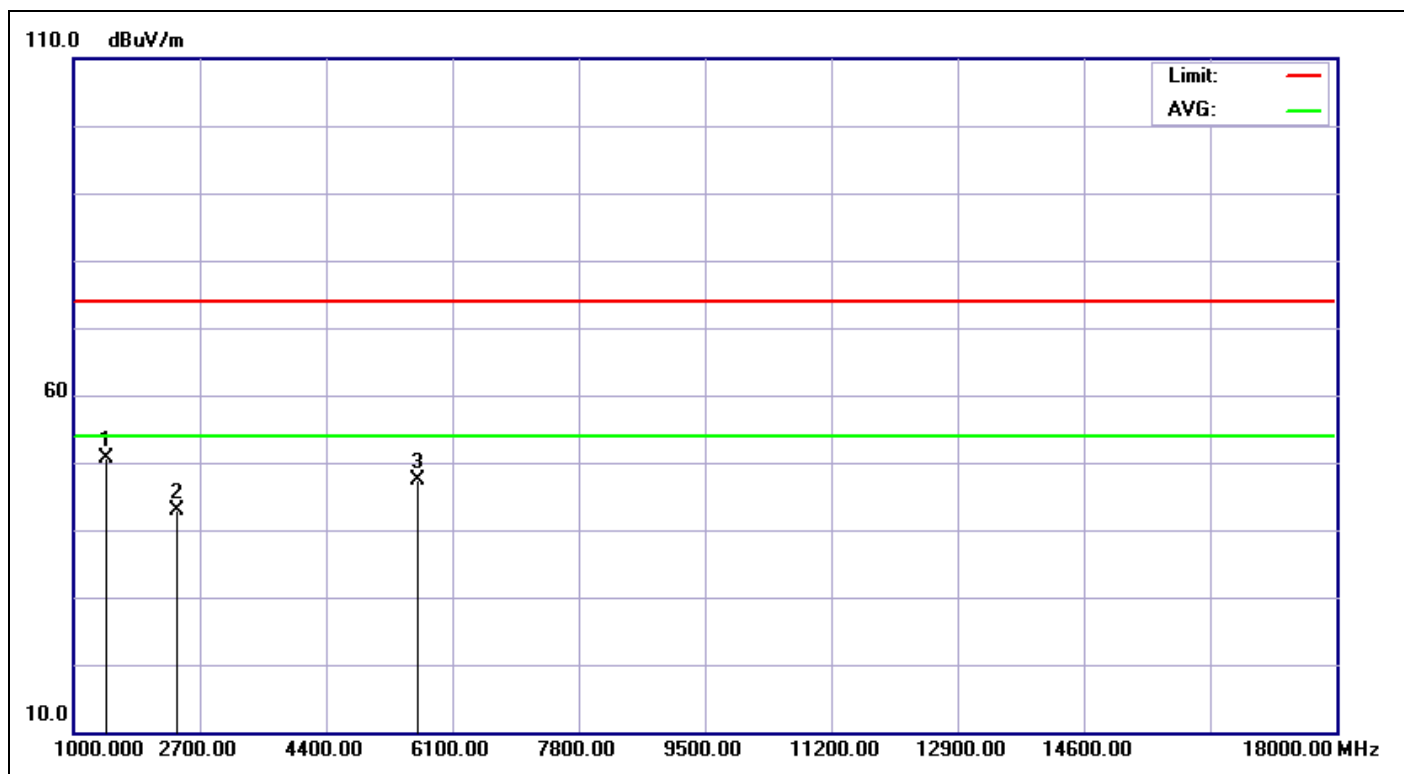
Spurious Emissions, TX Mode, 1-18G



TUV Taiwan

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



Service No.: 114008287_AT2530A

Test Distance: 3M

Test Standard: FCC above 1G PEAK

Ant. Polarization: Horizontal

Test item: Radiation Emission

Test Time: 2013/4/23 PM 04:41:45

Applicant: AAC

Test Rating: DC 3V

Product: ZigBee module

Temp.(°C)/Hum.(%): 22(°C)/61%

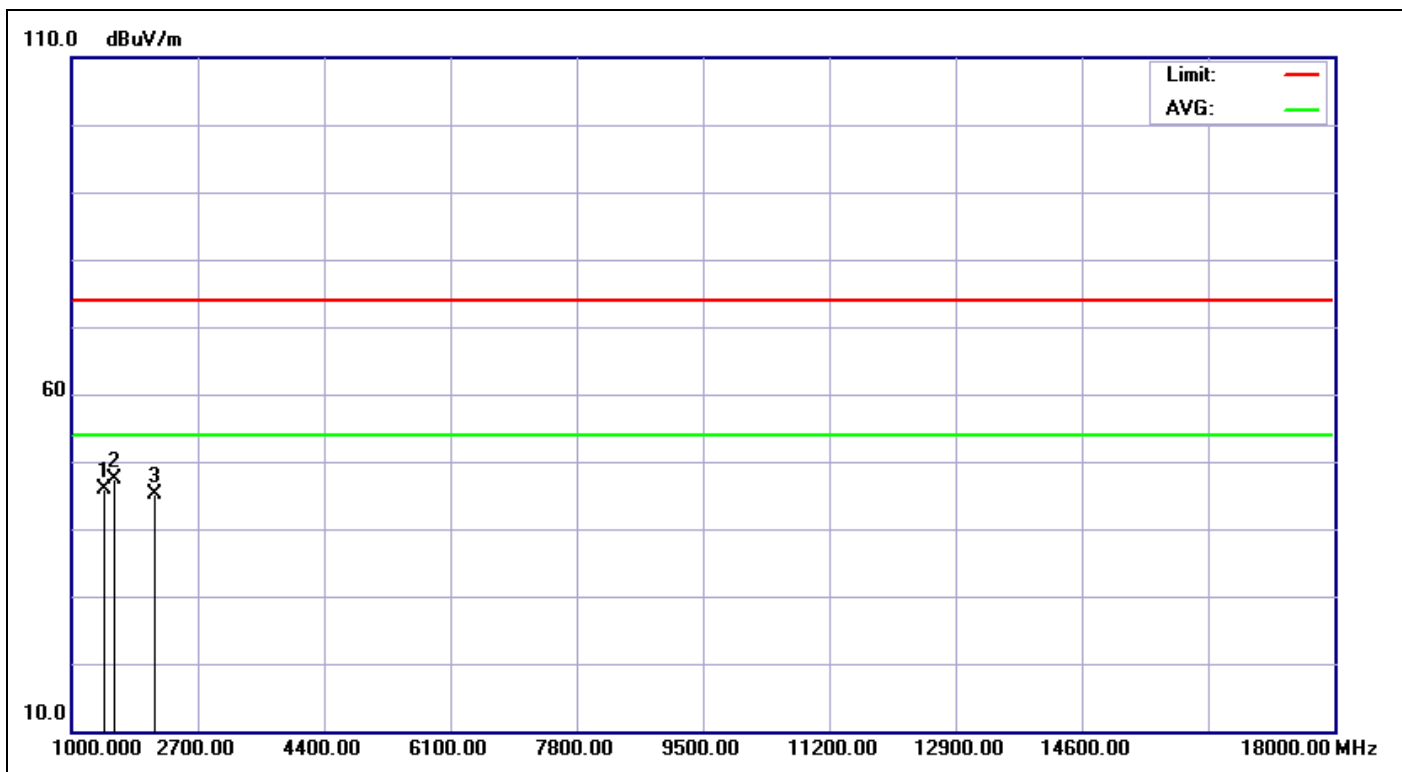
Model No.: AT2530A

Test Engineer: Neil Tsai

Test Mode: TX 2405

Remark:

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	1435.897	-13.73	64.37	50.64	74.00	-23.36	peak	100	317	
2	2389.423	-11.10	53.89	42.79	74.00	-31.21	peak	100	327	
3	5631.410	-0.13	47.53	47.40	74.00	-26.60	peak	100	156	



Service No.: 114008287_AT2530A

Test Distance: 3M

Test Standard: FCC above 1G PEAK

Ant. Polarization: Vertical

Test item: Radiation Emission

Test Time: 2013/4/23 PM 04:42:48

Applicant: AAC

Test Rating: DC 3V

Product: ZigBee module

Temp.(°C)/Hum.(%): 22(°C)/61%

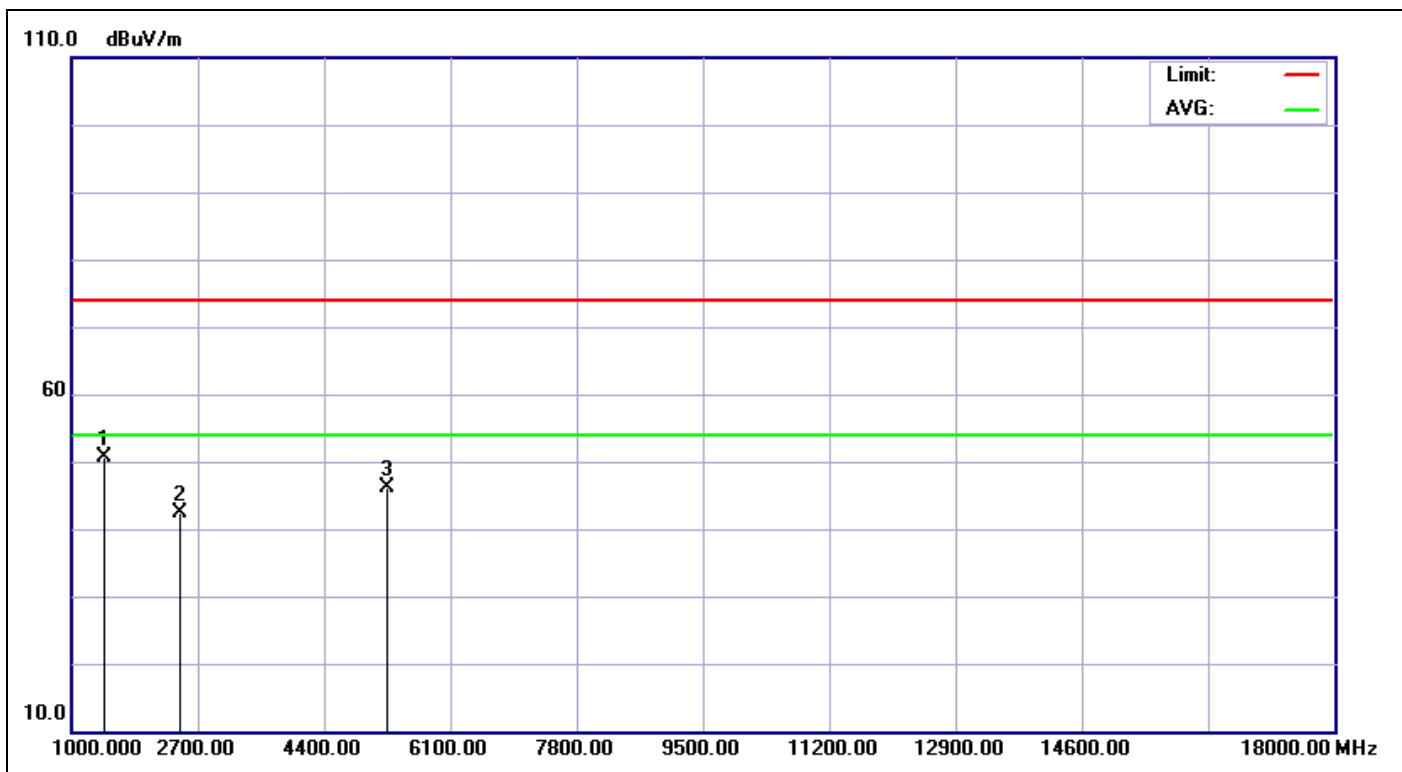
Model No.: AT2530A

Test Engineer: Neil Tsai

Test Mode: TX 2405

Remark:

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	1435.897	-13.73	59.57	45.84	74.00	-28.16	peak	100	349	
2	1572.115	-13.42	60.69	47.27	74.00	-26.73	peak	100	188	
3	2116.987	-11.38	56.61	45.23	74.00	-28.77	peak	100	323	



Service No.: 114008287_AT2530A

Test Distance: 3M

Test Standard: FCC above 1G PEAK

Ant. Polarization: Horizontal

Test item: Radiation Emission

Test Time: 2013/4/23 PM 04:45:26

Applicant: AAC

Test Rating: DC 3V

Product: ZigBee module

Temp.(°C)/Hum.(%): 22(°C)/61%

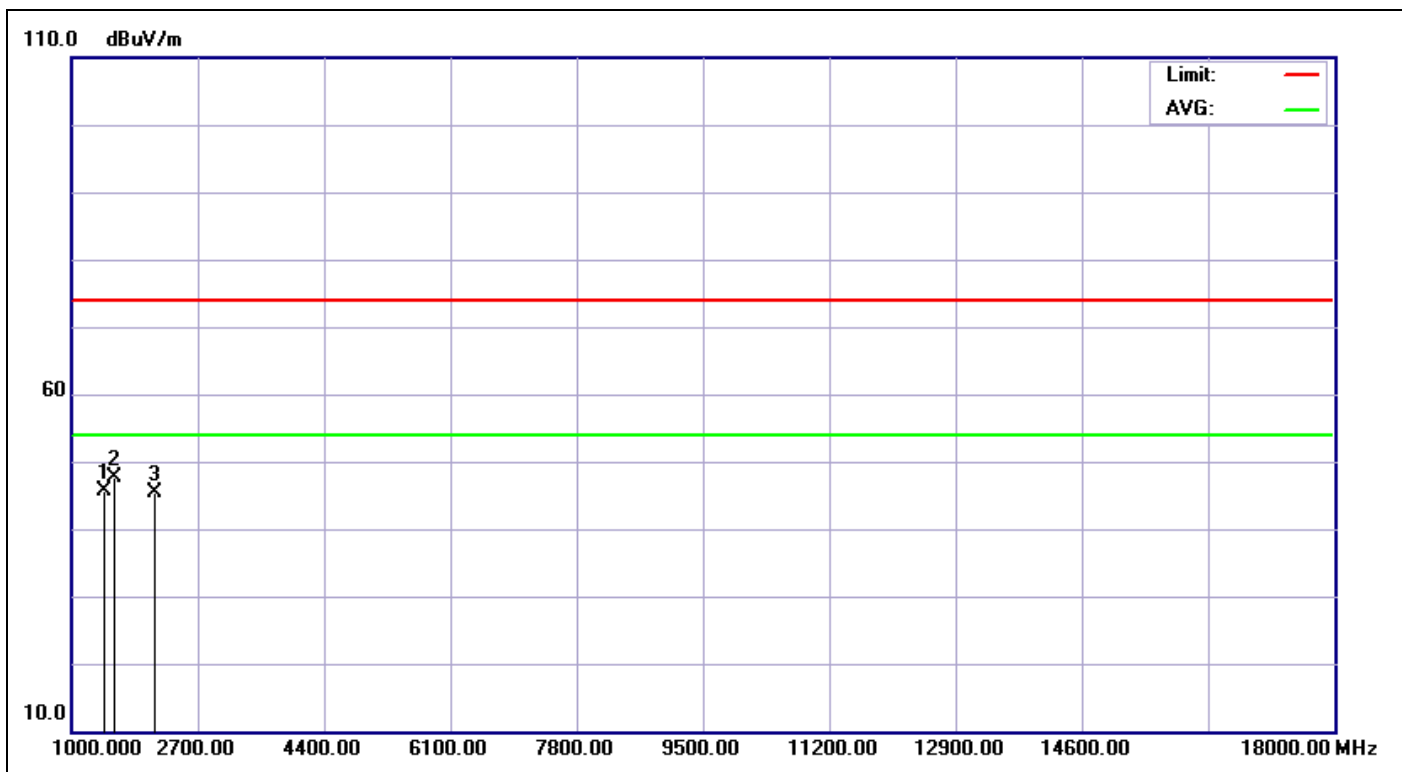
Model No.: AT2530A

Test Engineer: Neil Tsai

Test Mode: TX 2445

Remark:

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	1435.897	-13.73	64.41	50.68	74.00	-23.32	peak	100	327	
2	2471.154	-11.02	53.40	42.38	74.00	-31.62	peak	100	15	
3	5250.000	-2.40	48.62	46.22	74.00	-27.78	peak	100	246	



Service No.: 114008287_AT2530A

Test Distance: 3M

Test Standard: FCC above 1G PEAK

Ant. Polarization: Vertical

Test item: Radiation Emission

Test Time: 2013/4/23 PM 04:46:29

Applicant: AAC

Test Rating: DC 3V

Product: ZigBee module

Temp.(°C)/Hum.(%): 22(°C)/61%

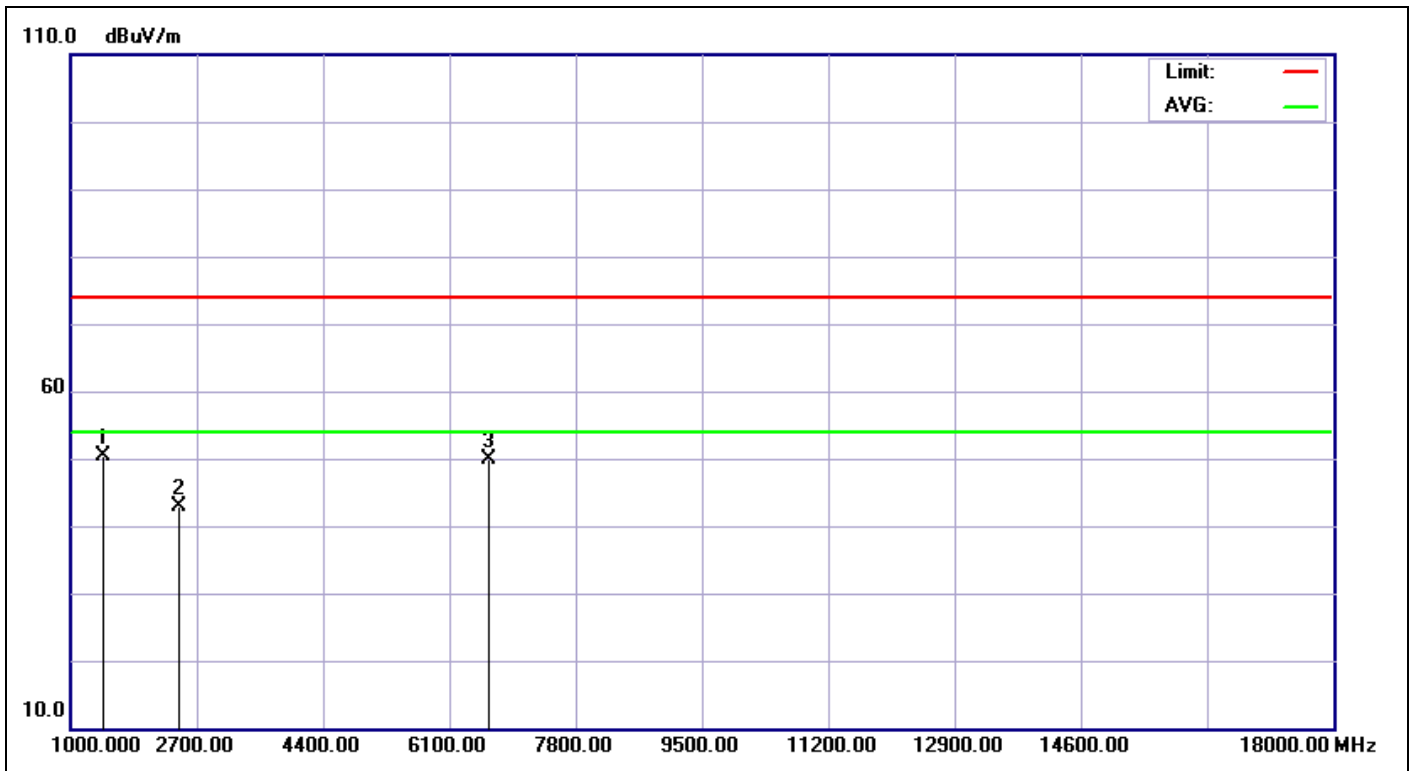
Model No.: AT2530A

Test Engineer: Neil Tsai

Test Mode: TX 2445

Remark:

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	1435.897	-13.73	59.47	45.74	74.00	-28.26	peak	100	355	
2	1572.115	-13.42	61.07	47.65	74.00	-26.35	peak	100	49	
3	2116.987	-11.38	56.68	45.30	74.00	-28.70	peak	100	297	



Service No.: 114008287_AT2530A

Test Distance: 3M

Test Standard: FCC above 1G PEAK

Ant. Polarization: Horizontal

Test item: Radiation Emission

Test Time: 2013/4/23 PM 04:49:07

Applicant: AAC

Test Rating: DC 3V

Product: ZigBee module

Temp.(°C)/Hum.(%): 22(°C)/61%

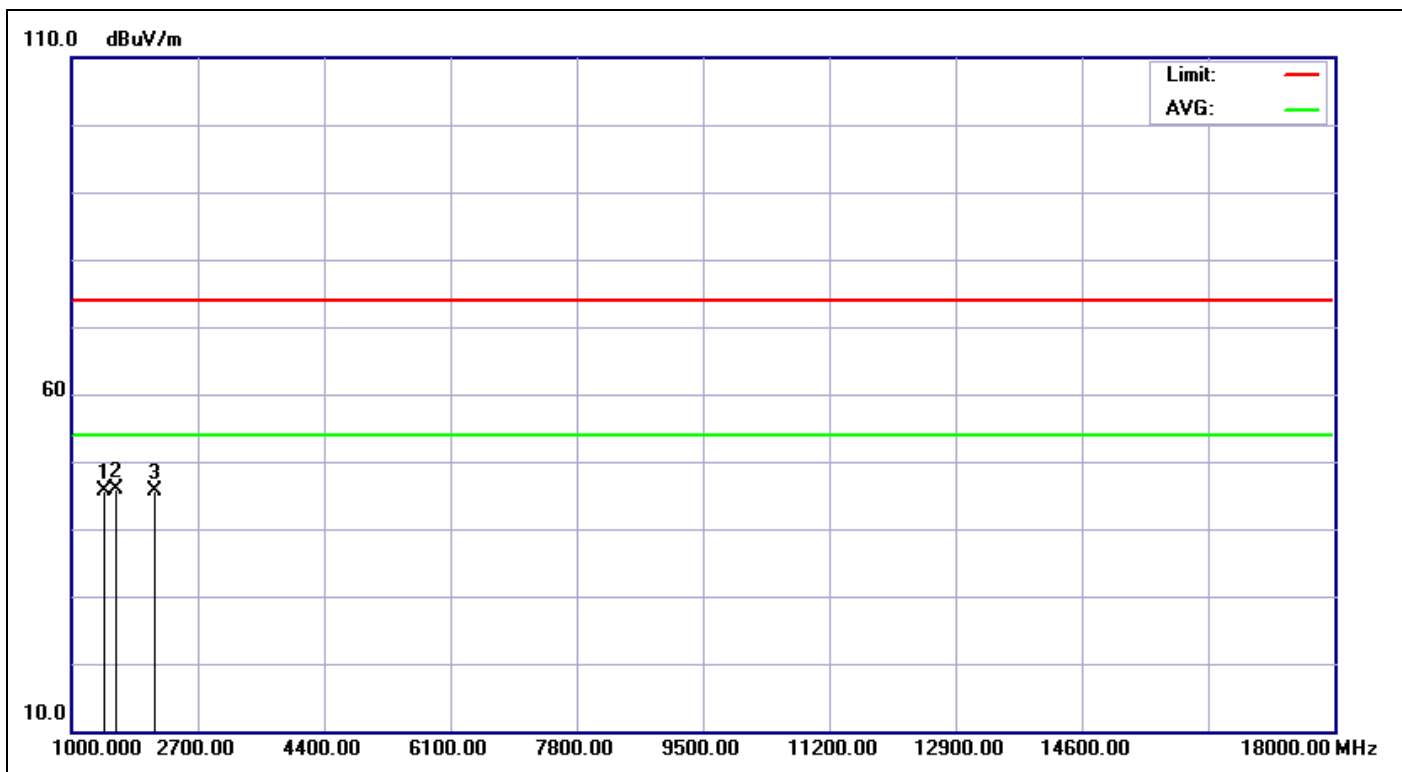
Model No.: AT2530A

Test Engineer: Neil Tsai

Test Mode: TX 2475

Remark:

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	1435.897	-13.73	64.13	50.40	74.00	-23.60	peak	100	323	
2	2471.154	-11.02	53.83	42.81	74.00	-31.19	peak	100	146	
3	6639.423	4.85	45.02	49.87	74.00	-24.13	peak	100	27	



Service No.: 114008287_AT2530A

Test Distance: 3M

Test Standard: FCC above 1G PEAK

Ant. Polarization: Vertical

Test item: Radiation Emission

Test Time: 2013/4/23 PM 04:50:09

Applicant: AAC

Test Rating: DC 3V

Product: ZigBee module

Temp.(°C)/Hum.(%): 22(°C)/61%

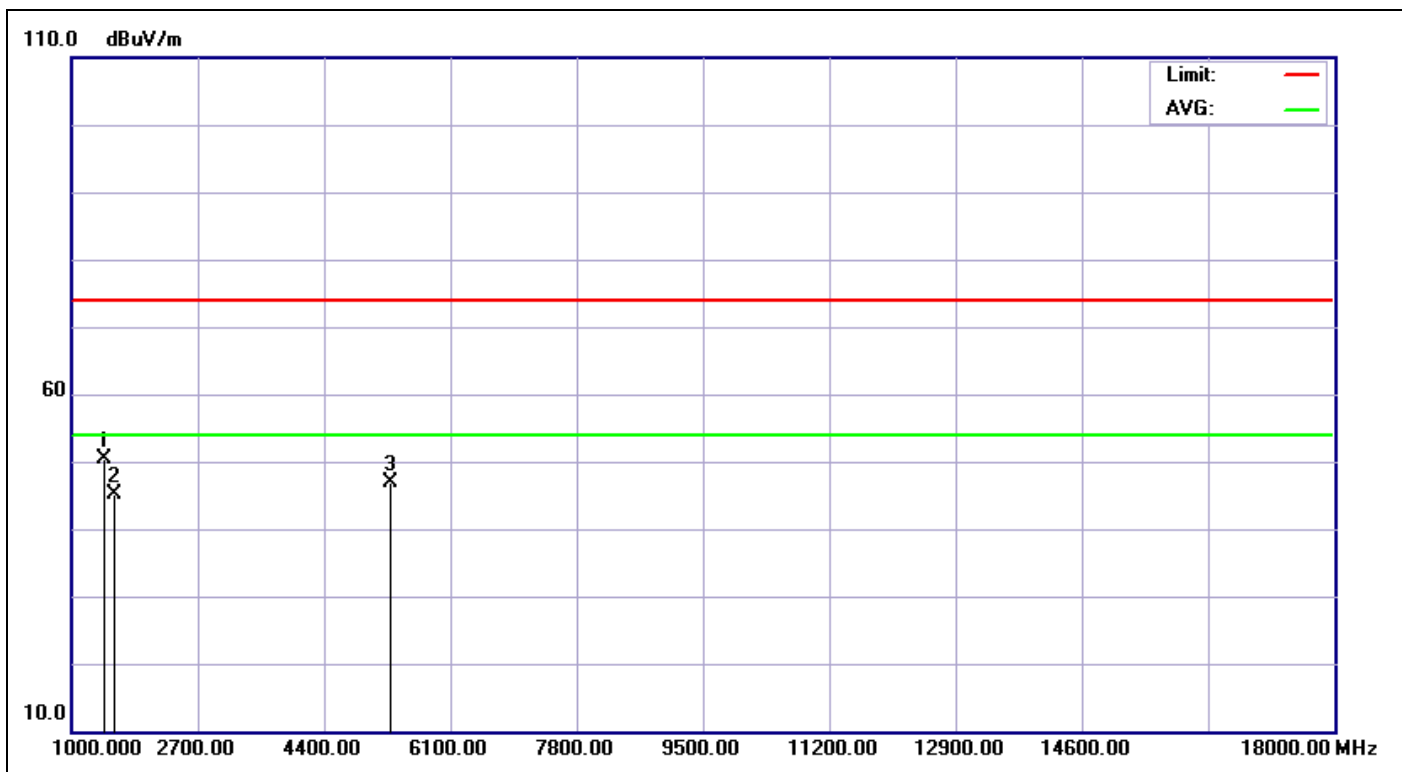
Model No.: AT2530A

Test Engineer: Neil Tsai

Test Mode: TX 2475

Remark:

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	1435.897	-13.73	59.27	45.54	74.00	-28.46	peak	100	342	
2	1599.359	-13.29	59.28	45.99	74.00	-28.01	peak	100	262	
3	2116.987	-11.38	57.08	45.70	74.00	-28.30	peak	100	226	



Service No.: 114008287_AT2530A

Test Distance: 3M

Test Standard: FCC above 1G PEAK

Ant. Polarization: Horizontal

Test item: Radiation Emission

Test Time: 2013/4/23 PM 04:52:57

Applicant: AAC

Test Rating: DC 3V

Product: ZigBee module

Temp.(°C)/Hum.(%): 22(°C)/61%

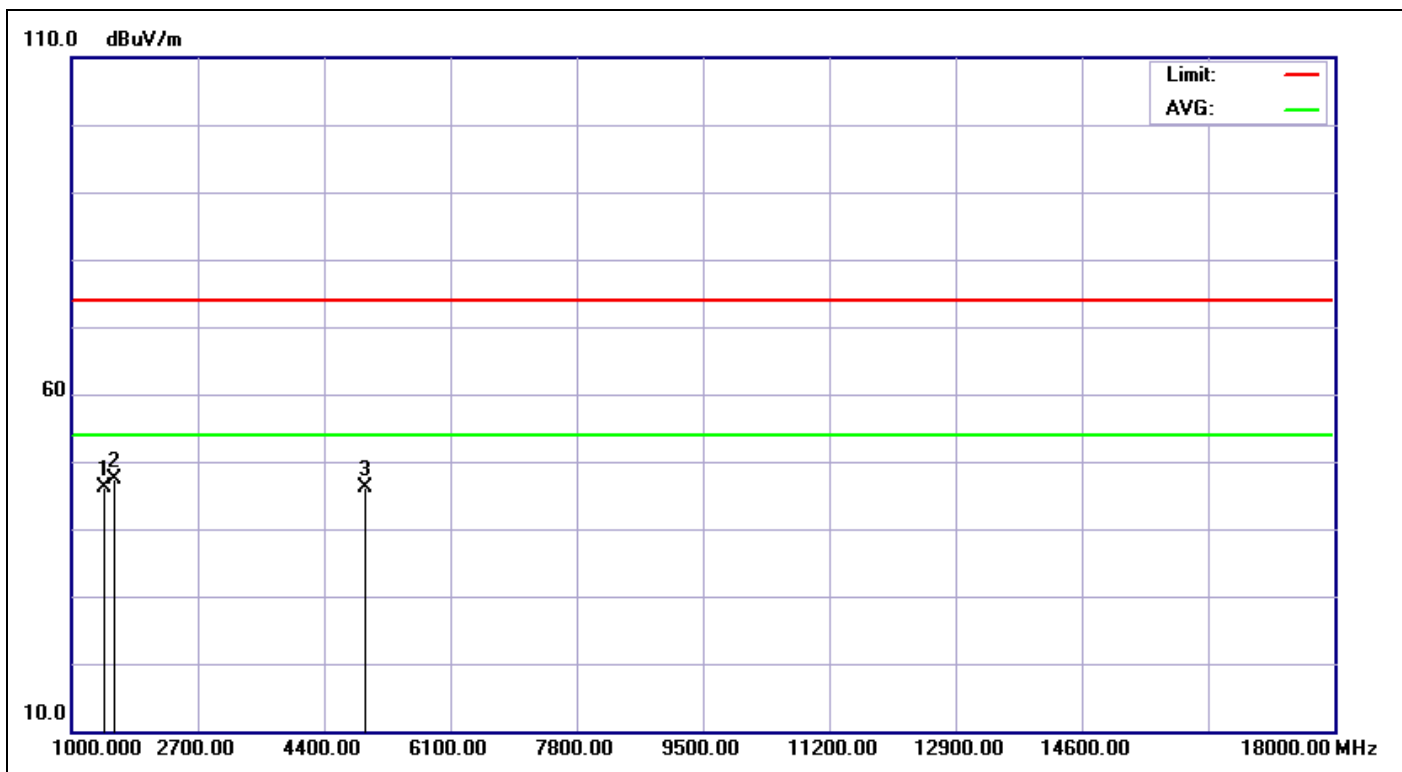
Model No.: AT2530A

Test Engineer: Neil Tsai

Test Mode: TX 2480

Remark:

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	1435.897	-13.73	64.13	50.40	74.00	-23.60	peak	100	324	
2	1572.115	-13.42	58.62	45.20	74.00	-28.80	peak	100	102	
3	5304.487	-2.09	49.05	46.96	74.00	-27.04	peak	100	227	



Service No.: 114008287_AT2530A

Test Distance: 3M

Test Standard: FCC above 1G PEAK

Ant. Polarization: Vertical

Test item: Radiation Emission

Test Time: 2013/4/23 PM 04:53:59

Applicant: AAC

Test Rating: DC 3V

Product: ZigBee module

Temp.(°C)/Hum.(%): 22(°C)/61%

Model No.: AT2530A

Test Engineer: Neil Tsai

Test Mode: TX 2480

Remark:

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	1435.897	-13.73	59.88	46.15	74.00	-27.85	peak	100	349	
2	1572.115	-13.42	60.70	47.28	74.00	-26.72	peak	100	272	
3	4950.320	-3.94	49.99	46.05	74.00	-27.95	peak	100	262	

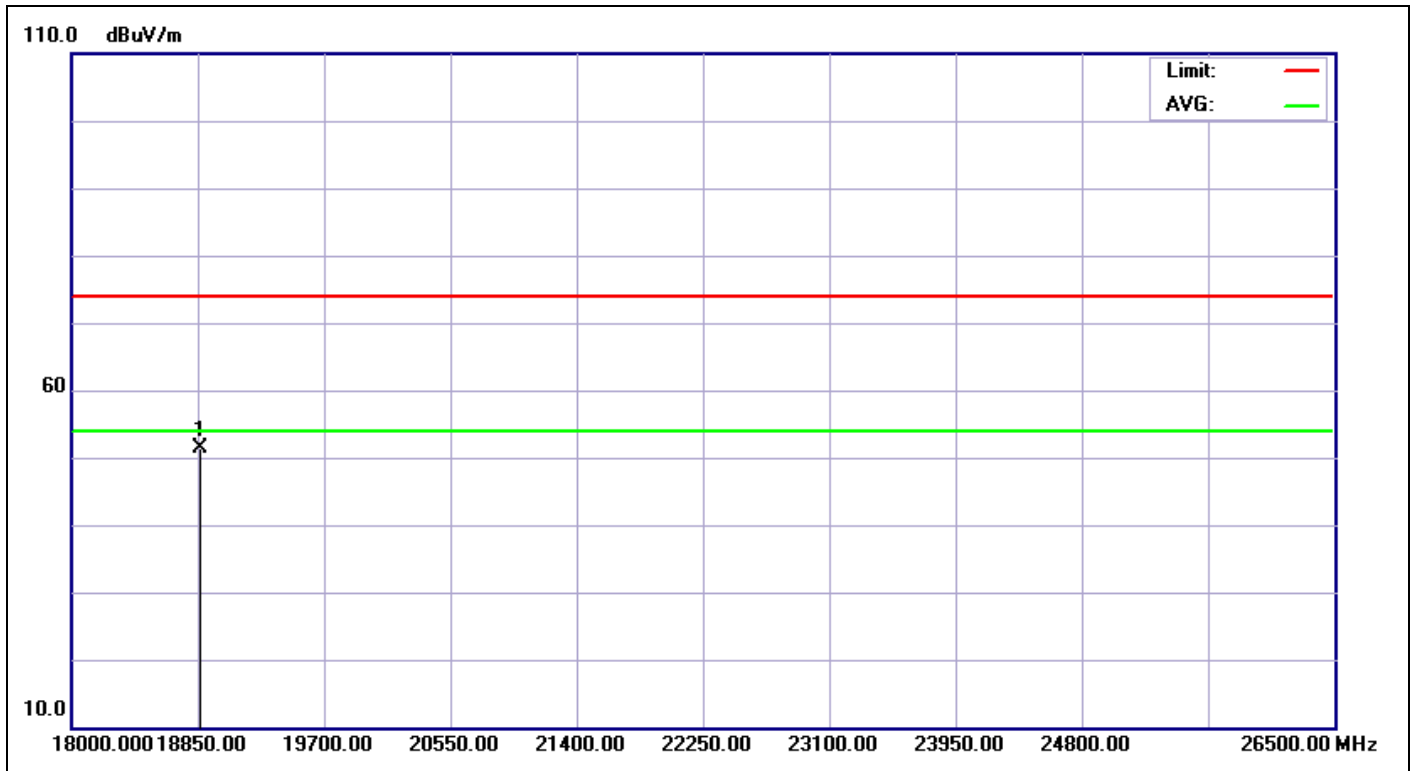
Spurious Emissions, TX Mode, 18-26G



TUV Taiwan

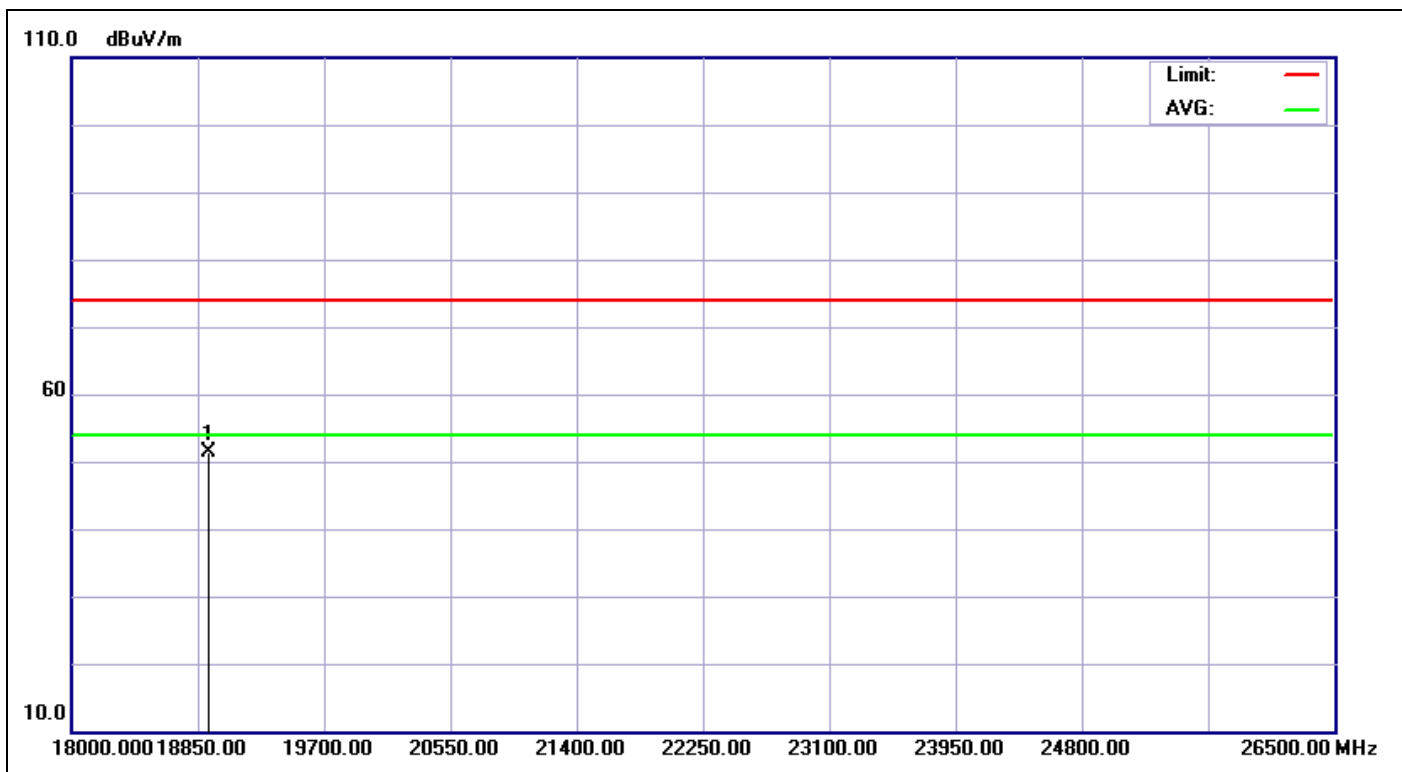
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

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



Service No.:	114008287_AT2530A	Test Distance:	3M
Test Standard:	FCC above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2013/4/23 PM 03:55:12
Applicant:	AAC	Test Rating:	DC 3V
Product:	ZigBee module	Temp.(°C)/Hum.(%):	22(°C)/61%
Model No.:	AT2530A	Test Engineer:	Neil Tsai
Test Mode:	TX 2405		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	18871.795	29.59	21.79	51.38	74.00	-22.62	peak	100	43	



Service No.: 114008287_AT2530A

Test Distance: 3M

Test Standard: FCC above 1G PEAK

Ant. Polarization: Vertical

Test item: Radiation Emission

Test Time: 2013/4/23 PM 03:56:15

Applicant: AAC

Test Rating: DC 3V

Product: ZigBee module

Temp.(°C)/Hum.(%): 22(°C)/61%

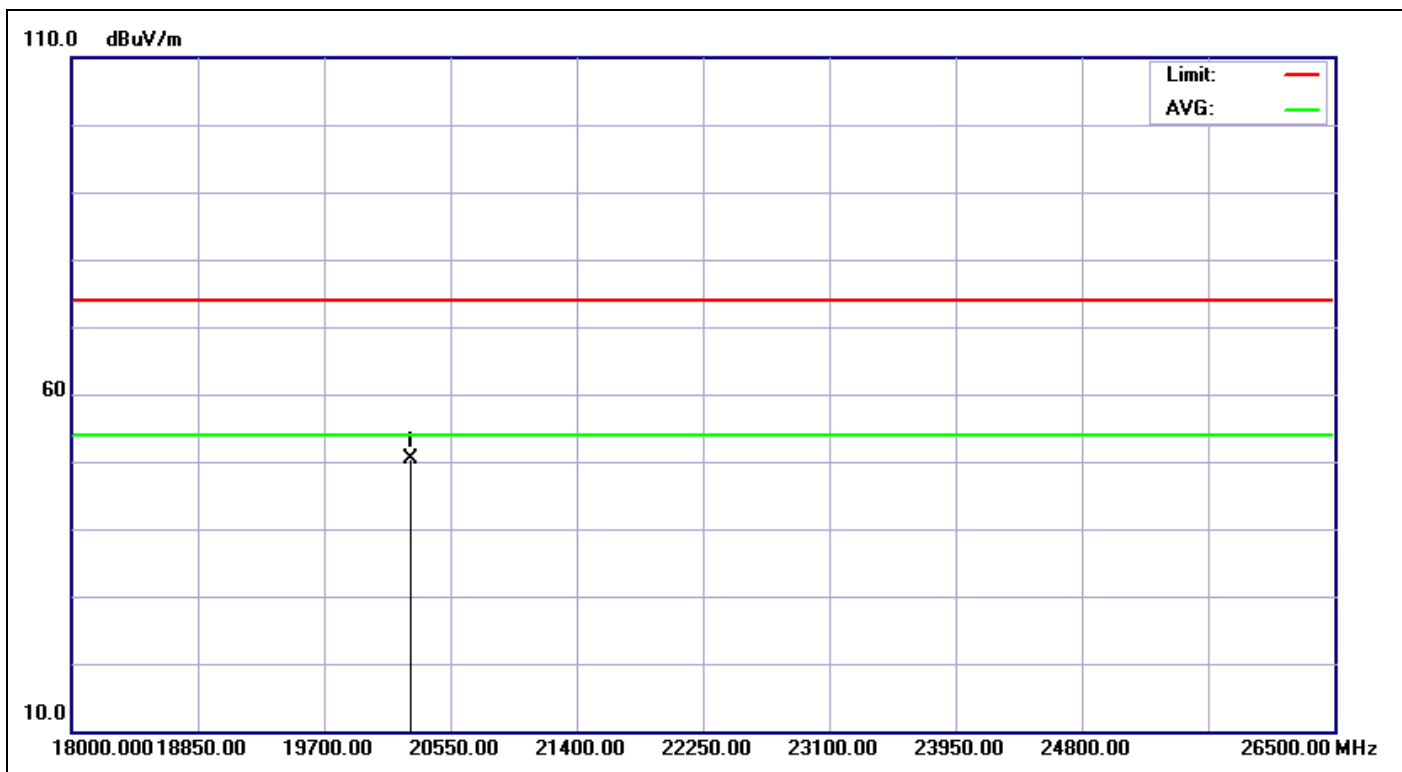
Model No.: AT2530A

Test Engineer: Neil Tsai

Test Mode: TX 2405

Remark:

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	18926.282	29.75	21.65	51.40	74.00	-22.60	peak	100	281	



Service No.: 114008287_AT2530A

Test Distance: 3M

Test Standard: FCC above 1G PEAK

Ant. Polarization: Horizontal

Test item: Radiation Emission

Test Time: 2013/4/23 PM 03:57:47

Applicant: AAC

Test Rating: DC 3V

Product: ZigBee module

Temp.(°C)/Hum.(%): 22(°C)/61%

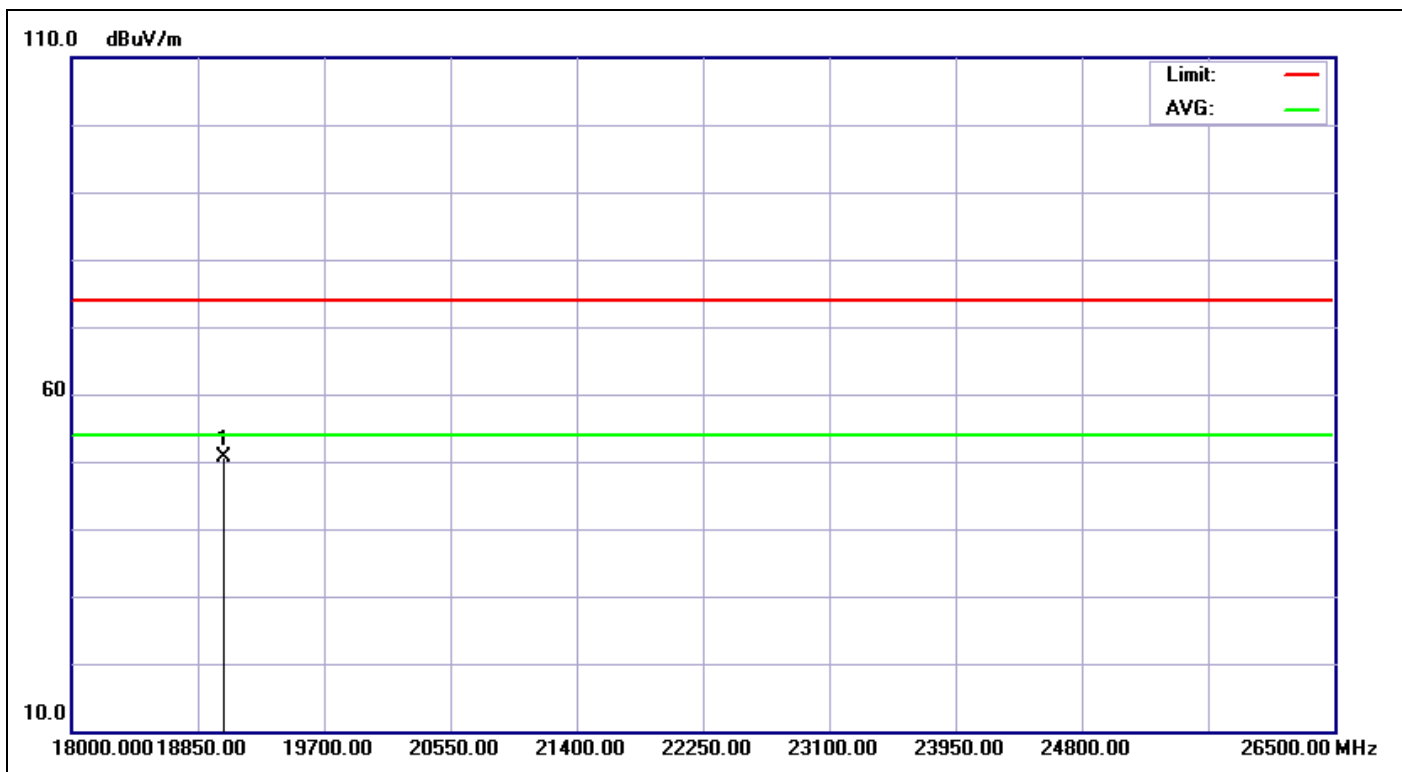
Model No.: AT2530A

Test Engineer: Neil Tsai

Test Mode: TX 2445

Remark:

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	20288.462	29.46	21.00	50.46	74.00	-23.54	peak	100	143	



Service No.: 114008287_AT2530A

Test Distance: 3M

Test Standard: FCC above 1G PEAK

Ant. Polarization: Vertical

Test item: Radiation Emission

Test Time: 2013/4/23 PM 03:58:50

Applicant: AAC

Test Rating: DC 3V

Product: ZigBee module

Temp.(°C)/Hum.(%): 22(°C)/61%

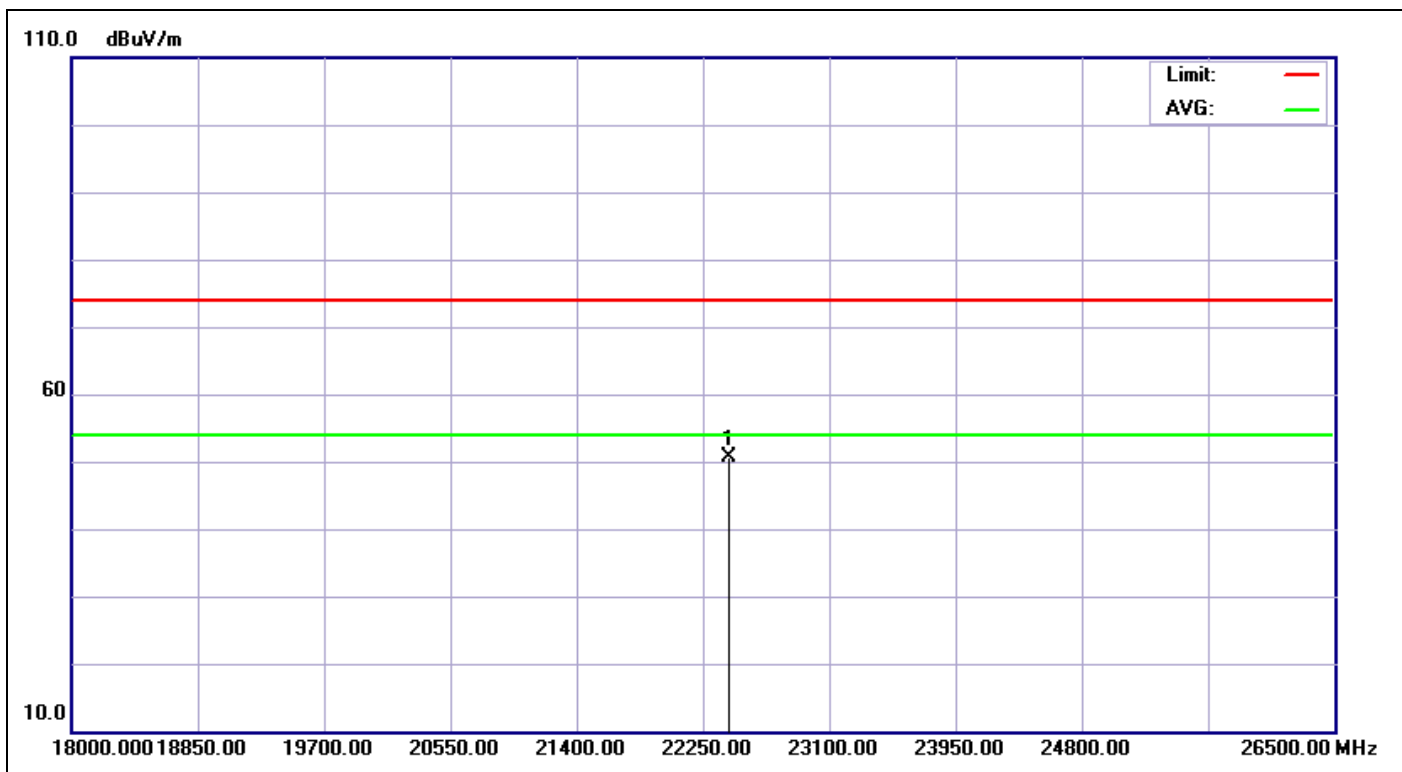
Model No.: AT2530A

Test Engineer: Neil Tsai

Test Mode: TX 2445

Remark:

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	19021.635	29.93	20.74	50.67	74.00	-23.33	peak	100	149	



Service No.: 114008287_AT2530A

Test Distance: 3M

Test Standard: FCC above 1G PEAK

Ant. Polarization: Horizontal

Test item: Radiation Emission

Test Time: 2013/4/23 PM 04:00:24

Applicant: AAC

Test Rating: DC 3V

Product: ZigBee module

Temp.(°C)/Hum.(%): 22(°C)/61%

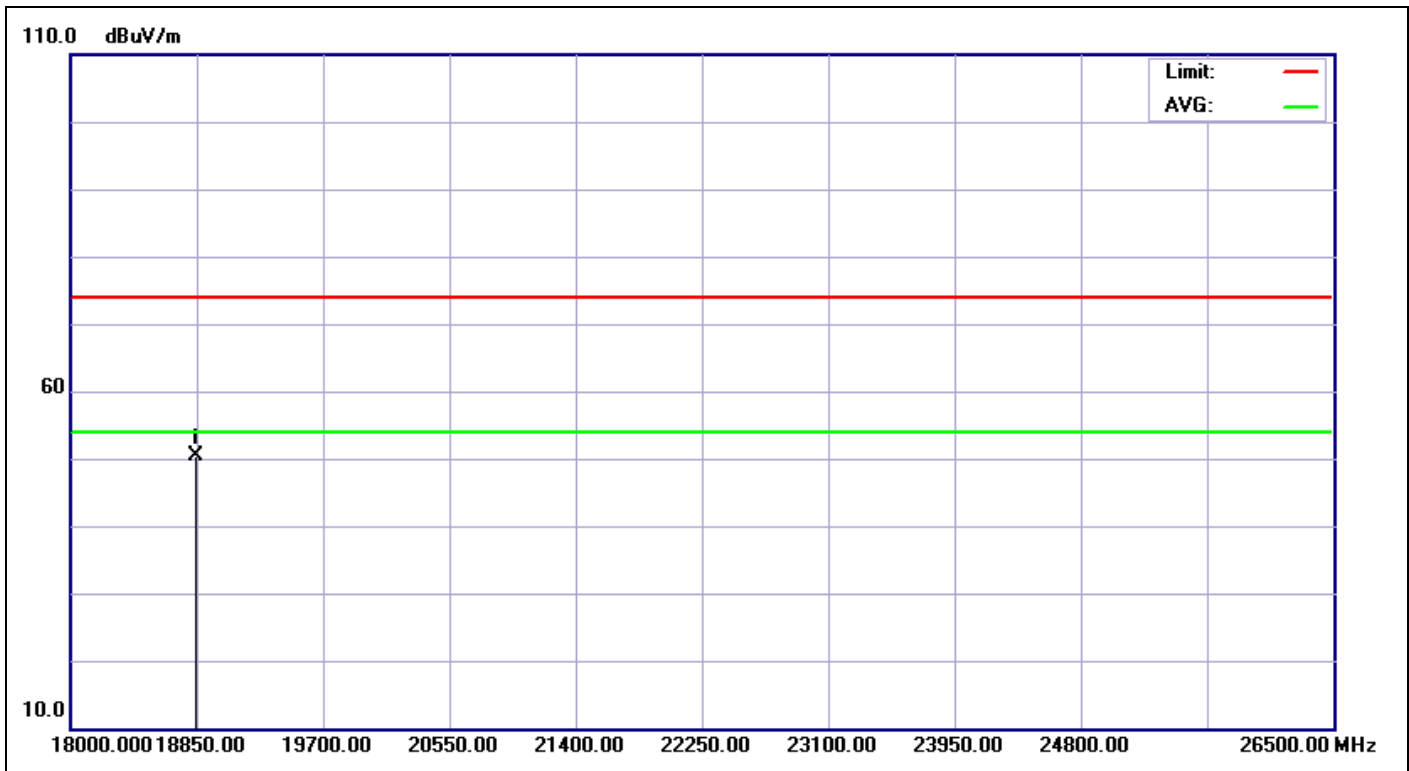
Model No.: AT2530A

Test Engineer: Neil Tsai

Test Mode: TX 2475

Remark:

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	22427.083	29.06	21.45	50.51	74.00	-23.49	peak	100	182	



Service No.: 114008287_AT2530A

Test Distance: 3M

Test Standard: FCC above 1G PEAK

Ant. Polarization: Vertical

Test item: Radiation Emission

Test Time: 2013/4/23 PM 04:01:26

Applicant: AAC

Test Rating: DC 3V

Product: ZigBee module

Temp.(°C)/Hum.(%): 22(°C)/61%

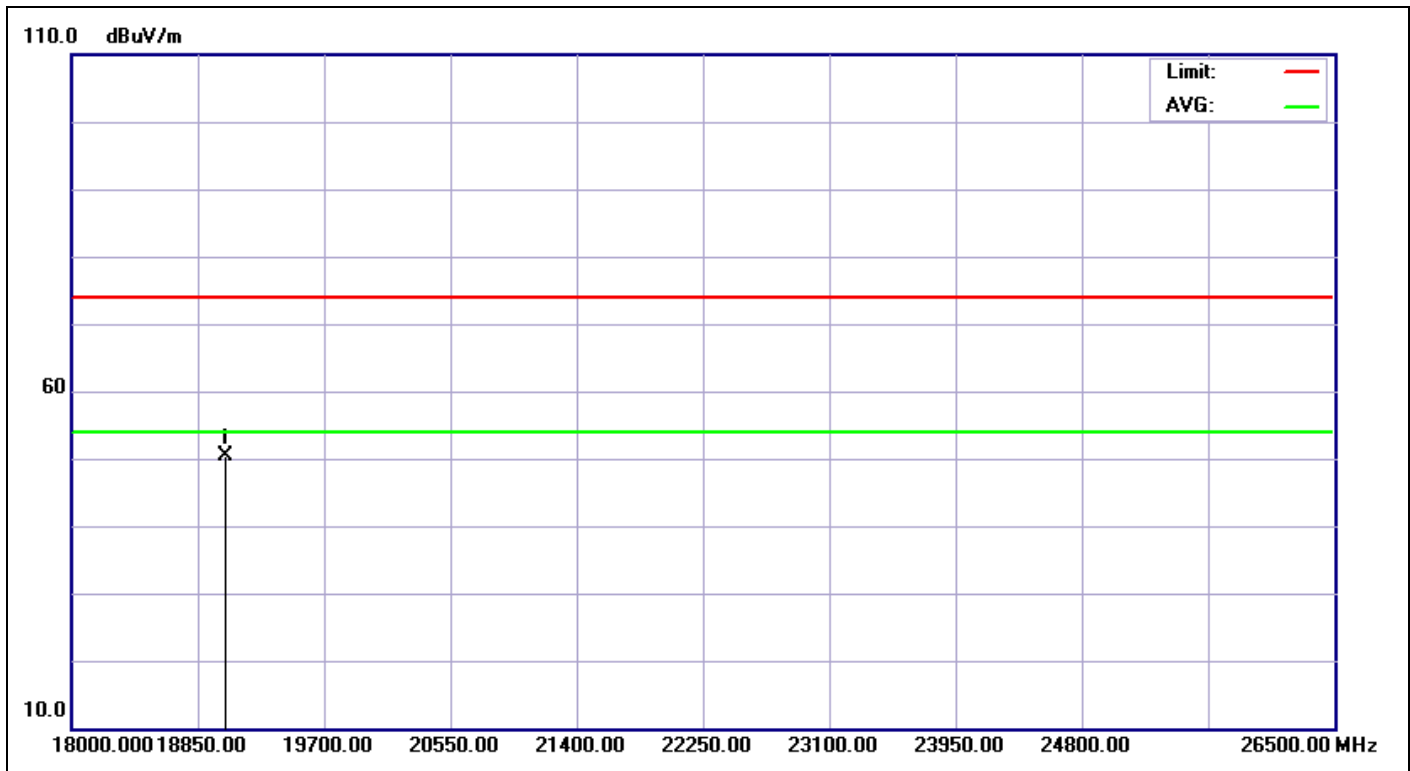
Model No.: AT2530A

Test Engineer: Neil Tsai

Test Mode: TX 2475

Remark:

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	18844.551	29.50	20.90	50.40	74.00	-23.60	peak	100	220	



Service No.: 114008287_AT2530A

Test Distance: 3M

Test Standard: FCC above 1G PEAK

Ant. Polarization: Horizontal

Test item: Radiation Emission

Test Time: 2013/4/23 PM 04:03:10

Applicant: AAC

Test Rating: DC 3V

Product: ZigBee module

Temp.(°C)/Hum.(%): 22(°C)/61%

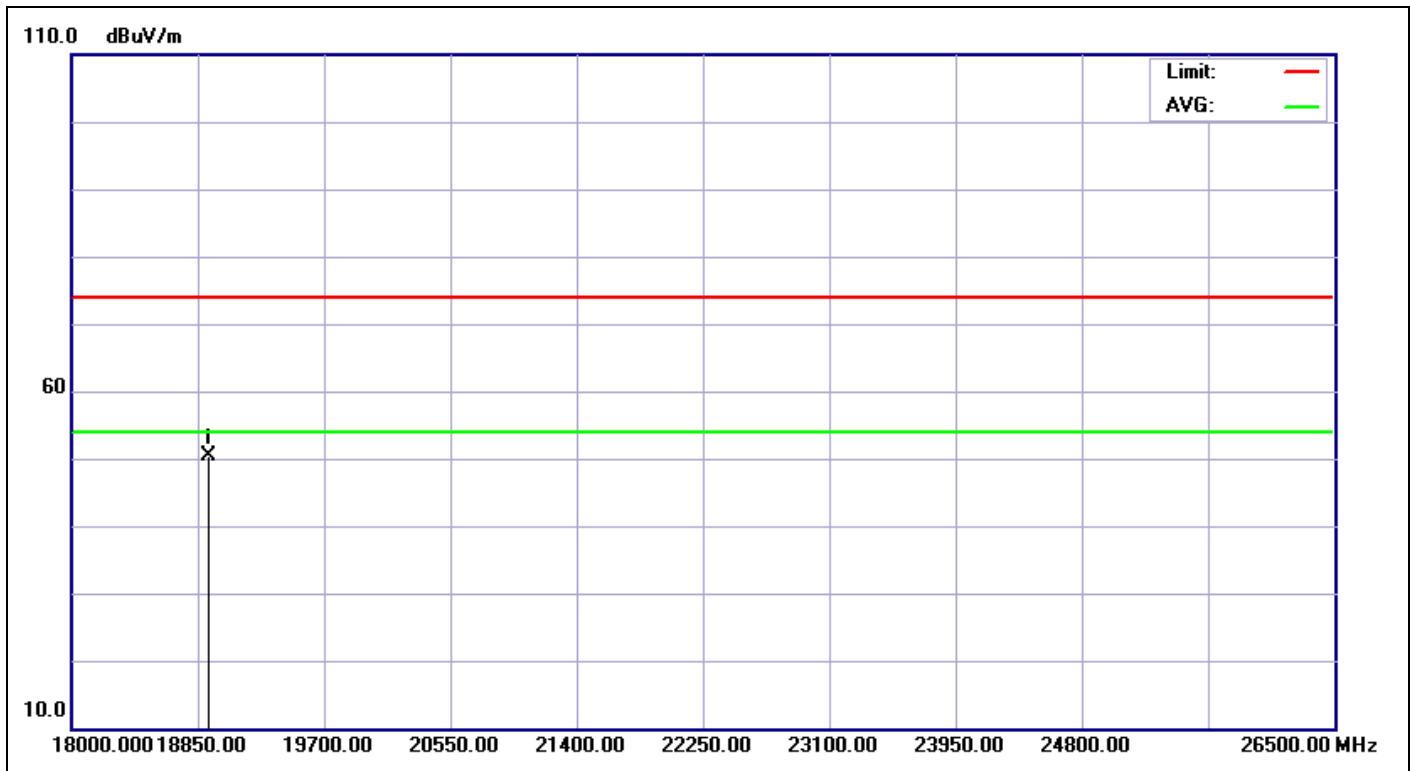
Model No.: AT2530A

Test Engineer: Neil Tsai

Test Mode: TX 2480

Remark:

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	19035.256	29.90	20.46	50.36	74.00	-23.64	peak	100	198	



Service No.: 114008287_AT2530A

Test Distance: 3M

Test Standard: FCC above 1G PEAK

Ant. Polarization: Vertical

Test item: Radiation Emission

Test Time: 2013/4/23 PM 04:04:12

Applicant: AAC

Test Rating: DC 3V

Product: ZigBee module

Temp.(°C)/Hum.(%): 22(°C)/61%

Model No.: AT2530A

Test Engineer: Neil Tsai

Test Mode: TX 2480

Remark:

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	18926.282	29.75	20.51	50.26	74.00	-23.74	peak	100	359	

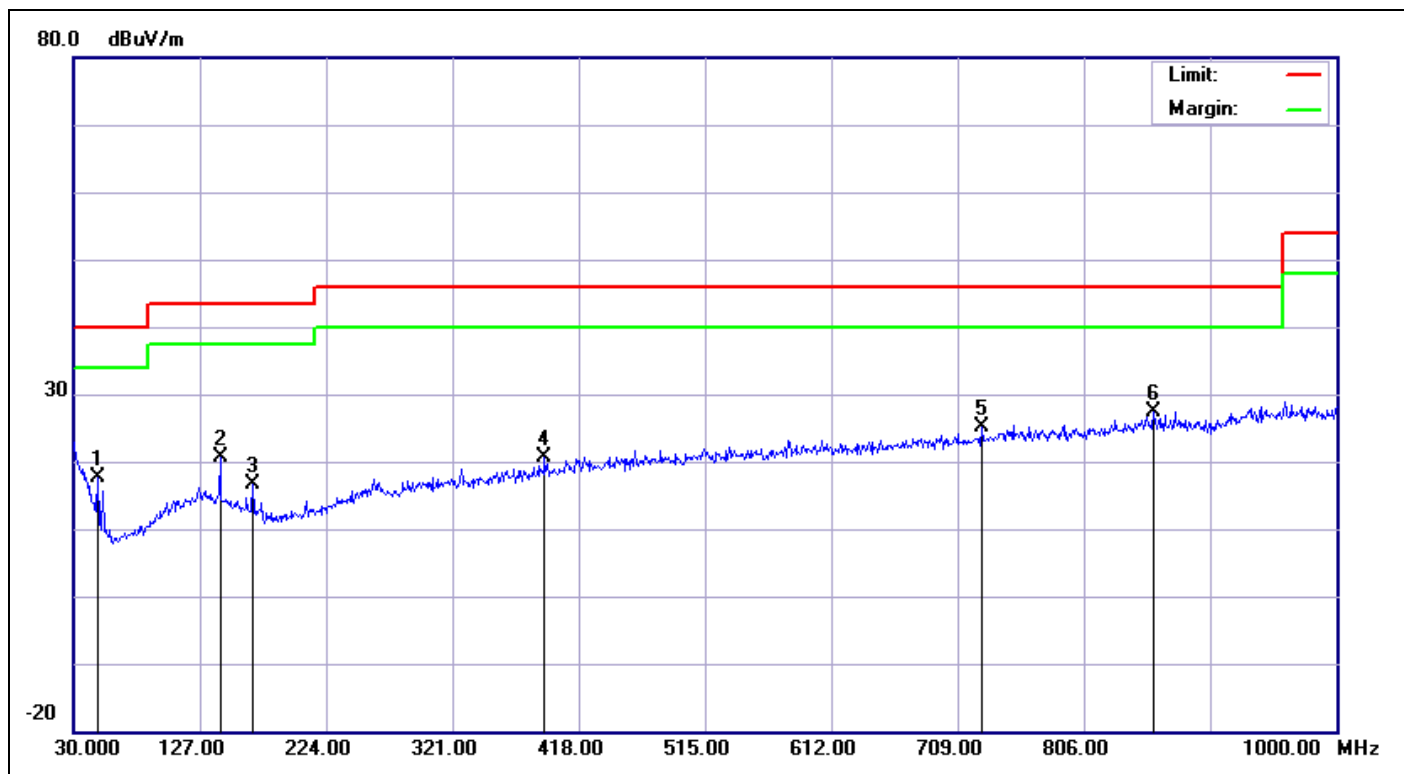
Spurious Emissions, TX Mode, 30M-1G



TUV Taiwan

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



Service No.: 114008287_AT2530A

Test Distance: 3M

Test Standard: FCC Class B 3M Radiation

Ant. Polarization: Horizontal

Test item: Radiation Emission

Test Time: 2013/4/23 PM 05:26:29

Applicant: AAC

Test Rating: DC 3V

Product: ZigBee module

Temp.(°C)/Hum.(%): 22(°C)/61%

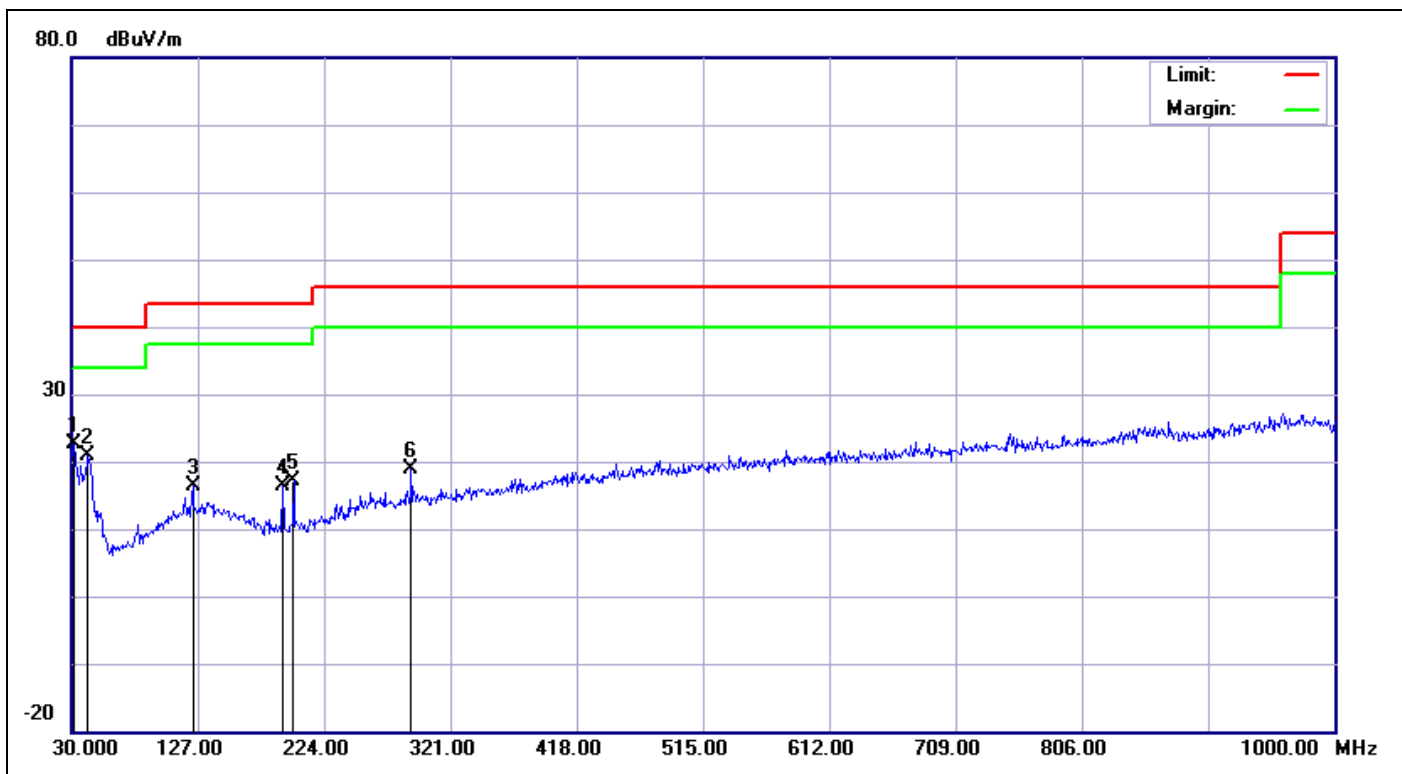
Model No.: AT2530A

Test Engineer: Neil Tsai

Test Mode: TX 2445

Remark:

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	48.4299	-16.20	33.90	17.70	40.00	-22.30	QP	100	153	
2	142.5200	-12.99	33.50	20.51	43.50	-22.99	QP	300	100	
3	167.7400	-14.68	31.19	16.51	43.50	-26.99	QP	200	2	
4	391.8100	-8.69	29.23	20.54	46.00	-25.46	QP	200	8	
5	727.4299	-4.44	29.63	25.19	46.00	-20.81	QP	300	21	
6	859.3500	-2.34	29.67	27.33	46.00	-18.67	QP	200	161	



Service No.: 114008287_AT2530A

Test Distance: 3M

Test Standard: FCC Class B 3M Radiation

Ant. Polarization: Vertical

Test item: Radiation Emission

Test Time: 2013/4/23 PM 05:30:09

Applicant: AAC

Test Rating: DC 3V

Product: ZigBee module

Temp.(°C)/Hum.(%): 22(°C)/61%

Model No.: AT2530A

Test Engineer: Neil Tsai

Test Mode: TX 2445

Remark:

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	31.9400	-7.11	29.65	22.54	40.00	-17.46	QP	101	0	
2	42.6099	-13.06	34.00	20.94	40.00	-19.06	QP	100	71	
3	123.1200	-13.16	29.43	16.27	43.50	-27.23	QP	100	111	
4	191.9900	-15.49	31.83	16.34	43.50	-27.16	QP	100	91	
5	200.7199	-15.08	32.16	17.08	43.50	-26.42	QP	200	289	
6	290.9300	-10.70	29.61	18.91	46.00	-27.09	QP	200	106	