

Produkte  
 Products



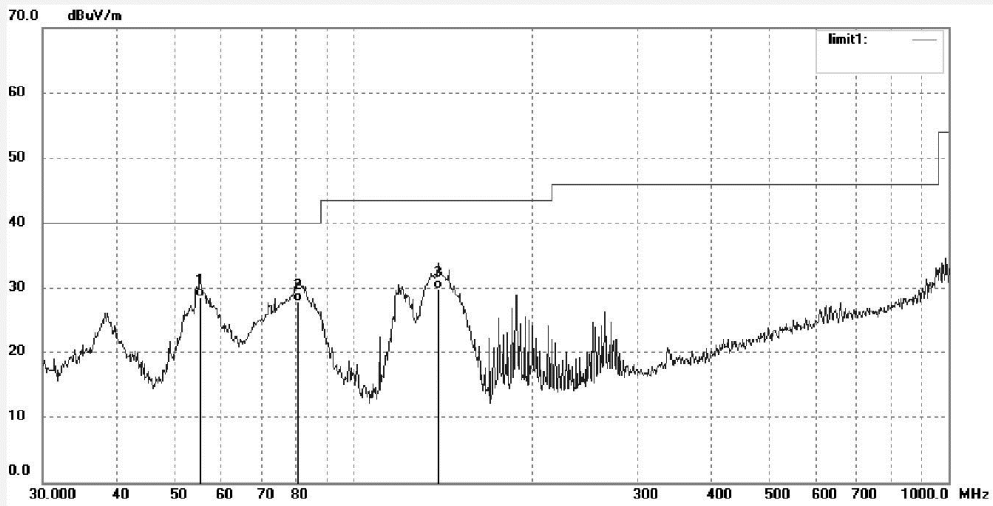
**ACCURATE TECHNOLOGY CO., LTD.**

F1,Bldg,A,Changyuan New Material Port Keyuan Rd,  
 Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber  
 Tel:+86-0755-26503290  
 Fax:+86-0755-26503396

Job No.: lenovo #432	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 15/04/18/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: ThinkPad Stack Bluetooth Speaker	Engineer Signature:
Mode: TX 2402MHz	Distance: 3m
Model: S123	
Manufacturer: Lenovo	

Note: Bluetooth 4.0



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	55.2207	41.72	-13.02	28.70	40.00	-11.30	QP			
2	80.6441	44.26	-16.36	27.90	40.00	-12.10	QP			
3	138.3873	44.67	-14.87	29.80	43.50	-13.70	QP			

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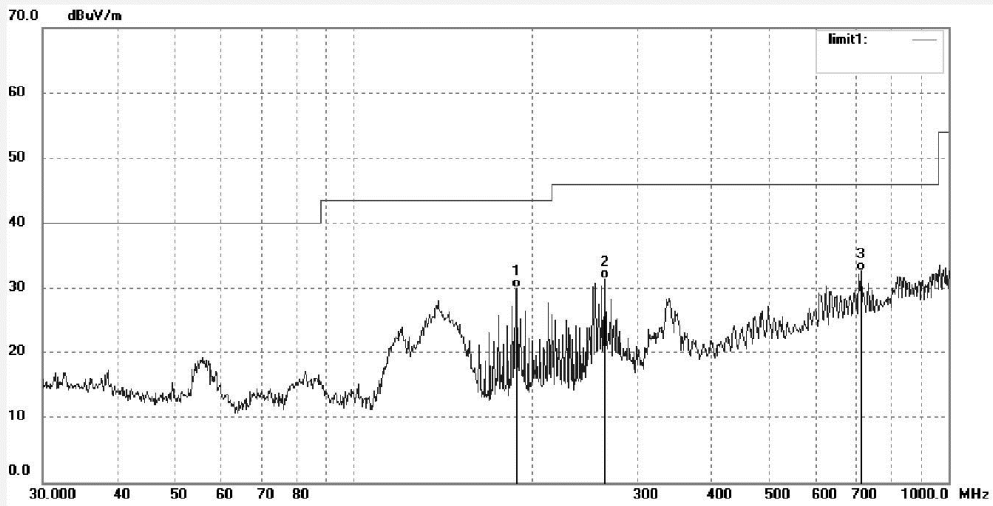
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 Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber  
 Tel:+86-0755-26503290  
 Fax:+86-0755-26503396

Job No.: lenovo #433	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 15/04/18/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: ThinkPad Stack Bluetooth Speaker	Engineer Signature:
Mode: TX 2402MHz	Distance: 3m
Model: S123	
Manufacturer: Lenovo	

Note: Bluetooth 4.0



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	187.7529	42.63	-12.68	29.95	43.50	-13.55	QP			
2	264.7456	41.78	-10.44	31.34	46.00	-14.66	QP			
3	711.6734	34.26	-1.59	32.67	46.00	-13.33	QP			

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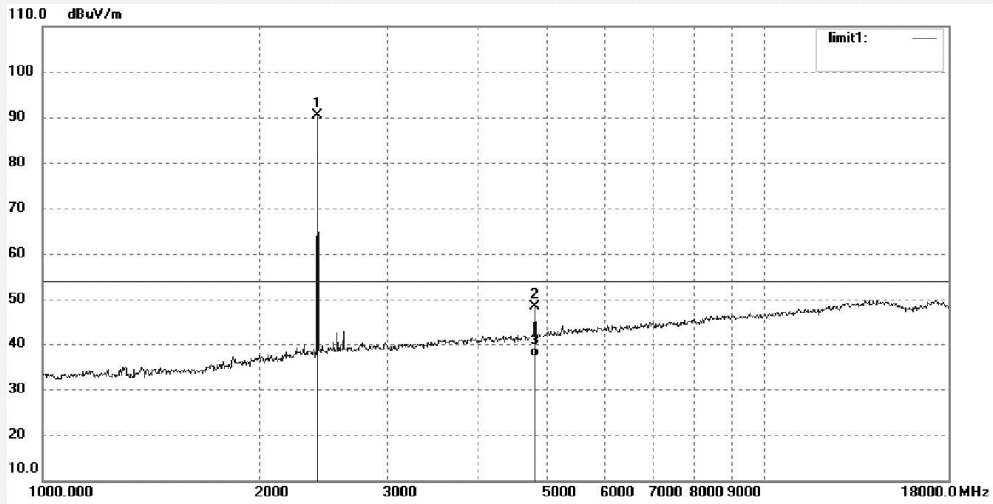
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Site: 2# Chamber  
 Tel:+86-0755-26503290  
 Fax:+86-0755-26503396

Job No.: lenovo #448	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 15/04/18/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: ThinkPad Stack Bluetooth Speaker	Engineer Signature:
Mode: TX 2402MHz	Distance: 3m
Model: S123	
Manufacturer: Lenovo	

Note: Bluetooth 4.0



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2402.000	97.75	-7.45	90.30	/	/	peak			
2	4804.020	48.78	-0.30	48.48	74.00	-25.52	peak			
3	4804.020	37.54	-0.30	37.24	54.00	-16.76	AVG			

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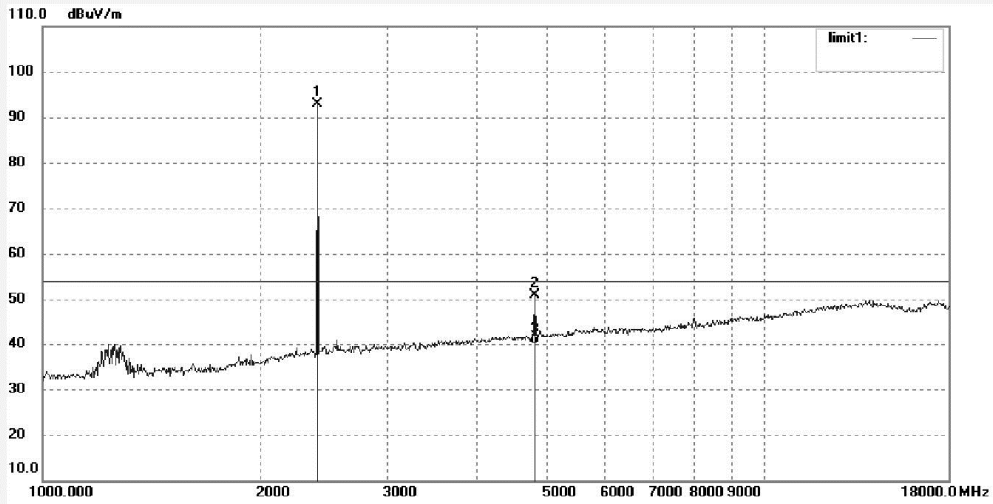
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Site: 2# Chamber  
 Tel:+86-0755-26503290  
 Fax:+86-0755-26503396

Job No.: lenovo #449	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 15/04/18/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: ThinkPad Stack Bluetooth Speaker	Engineer Signature:
Mode: TX 2402MHz	Distance: 3m
Model: S123	
Manufacturer: Lenovo	

Note: Bluetooth 4.0



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2402.000	100.37	-7.45	92.92	/	/	peak			
2	4804.023	51.21	-0.30	50.91	74.00	-23.09	peak			
3	4804.023	40.17	-0.30	39.87	54.00	-14.13	AVG			

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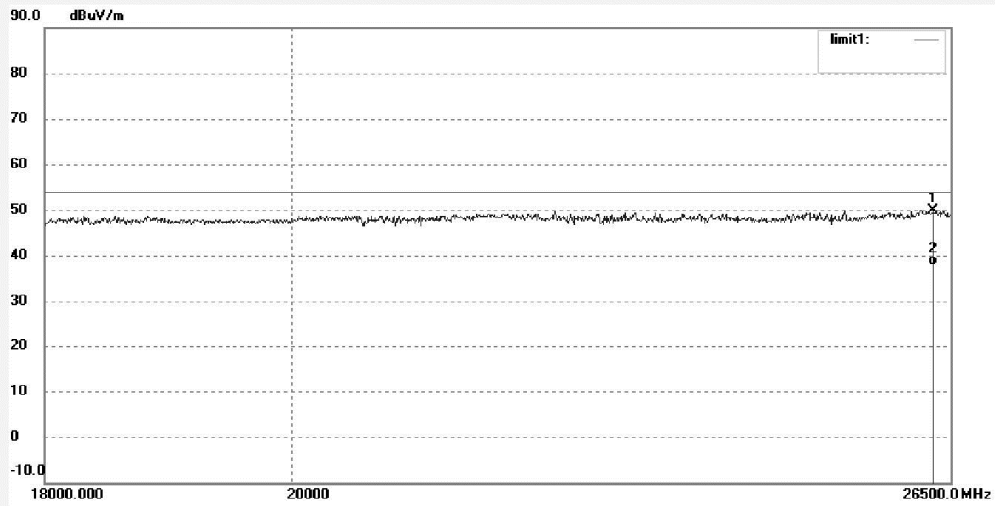
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Site: 2# Chamber  
 Tel:+86-0755-26503290  
 Fax:+86-0755-26503396

Job No.: lenovo #512	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 15/04/18/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: ThinkPad Stack Bluetooth Speaker	Engineer Signature:
Mode: TX 2402MHz	Distance: 3m
Model: S123	
Manufacturer: Lenovo	

Note: Bluetooth 4.0



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	26305.974	32.94	17.03	49.97	74.00	-24.03	peak			
2	26305.974	20.86	17.03	37.89	54.00	-16.11	AVG			

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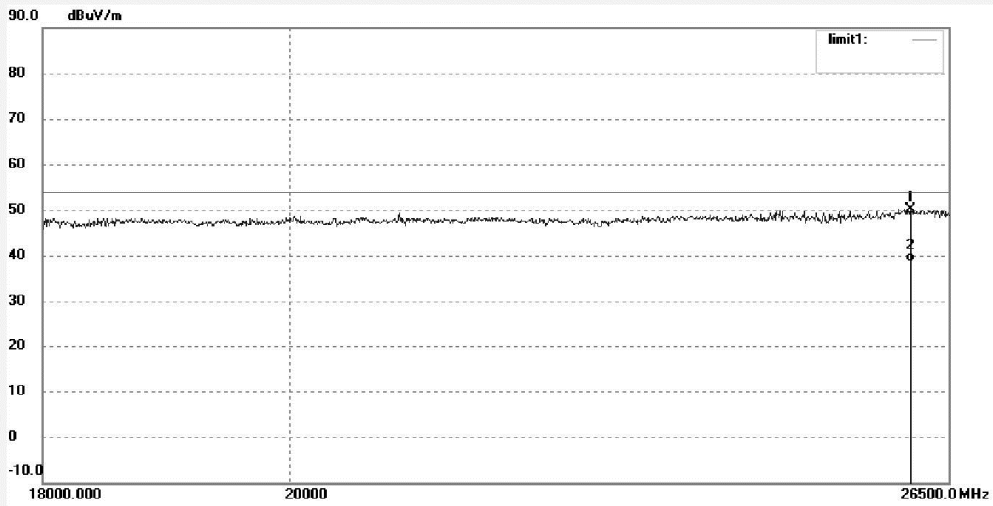
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Site: 2# Chamber  
 Tel:+86-0755-26503290  
 Fax:+86-0755-26503396

Job No.: lenovo #513	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 15/04/18/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: ThinkPad Stack Bluetooth Speaker	Engineer Signature:
Mode: TX 2402MHz	Distance: 3m
Model: S123	
Manufacturer: Lenovo	

Note: Bluetooth 4.0



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	26072.999	32.97	17.18	50.15	74.00	-23.85	peak			
2	26072.999	21.56	17.18	38.74	54.00	-15.26	AVG			

### Middle Channel

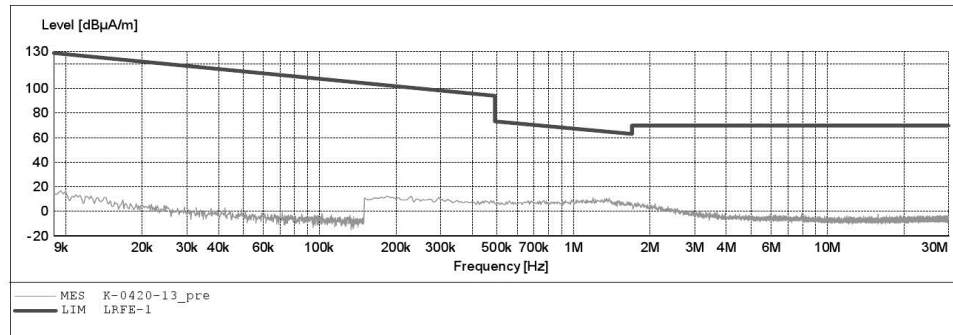
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**FCC Class B 3m Radiated**

EUT: ThinkPad Stack Bluetooth Speaker M/N:S123  
Manufacturer: Lenovo  
Operating Condition: TX 2440MHz  
Test Site: 2# Chamber  
Operator: LAN  
Test Specification: AC 120V/60Hz  
Comment: X  
Start of Test: 2015-4-21 /

**SCAN TABLE: "LFRE Fin"**

Short Description:			_SUB STD VTERM2 1.70			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



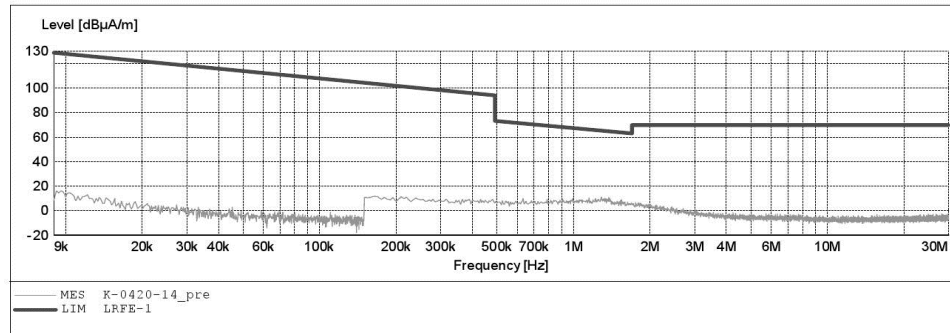
**ACCURATE TECHNOLOGY CO., LTD**

**FCC Class B 3m Radiated**

EUT: ThinkPad Stack Bluetooth Speaker M/N:S123  
 Manufacturer: Lenovo  
 Operating Condition: TX 2440MHz  
 Test Site: 2# Chamber  
 Operator: LAN  
 Test Specification: AC 120V/60Hz  
 Comment: Y  
 Start of Test: 2015-4-21 /

**SCAN TABLE: "LFRE Fin"**

Short Description:			_SUB_STD_VTERM2 1.70			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M





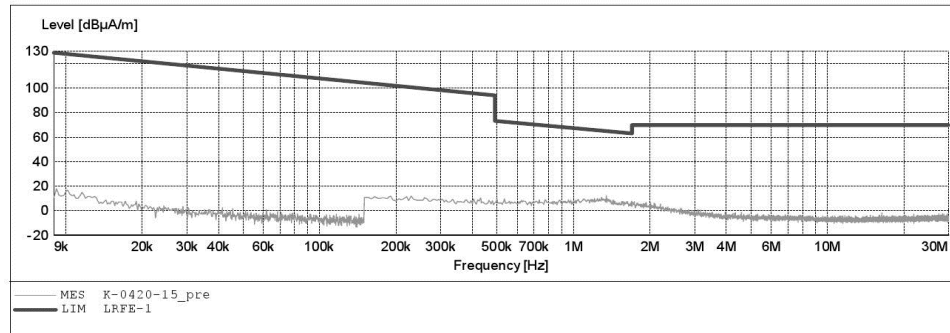
**ACCURATE TECHNOLOGY CO., LTD**

**FCC Class B 3m Radiated**

EUT: ThinkPad Stack Bluetooth Speaker M/N:S123  
Manufacturer: Lenovo  
Operating Condition: TX 2440MHz  
Test Site: 2# Chamber  
Operator: LAN  
Test Specification: AC 120V/60Hz  
Comment: Z  
Start of Test: 2015-4-21 /

**SCAN TABLE: "LFRE Fin"**

Short Description:			_SUB_STD_VTERM2 1.70			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



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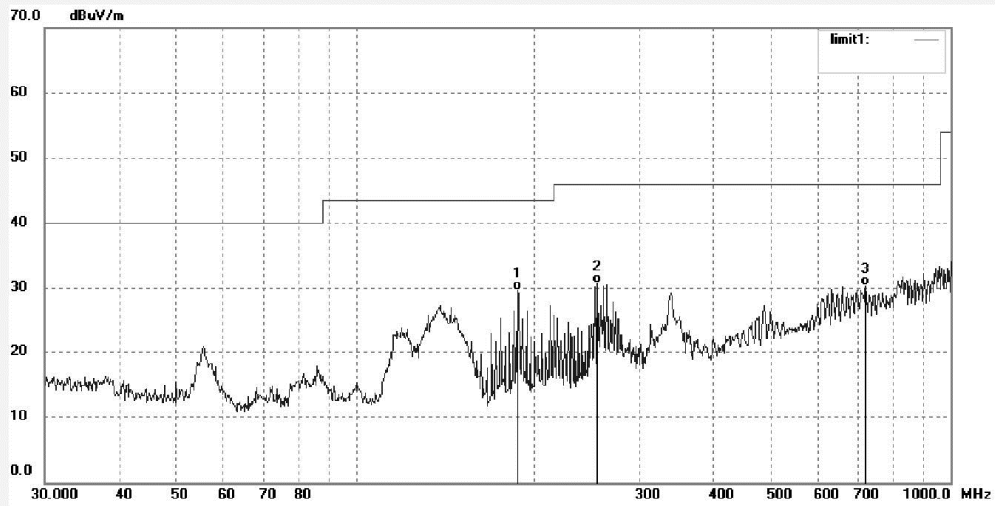
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 Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber  
 Tel:+86-0755-26503290  
 Fax:+86-0755-26503396

Job No.: lenovo #434	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 15/04/18/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: ThinkPad Stack Bluetooth Speaker	Engineer Signature:
Mode: TX 2440MHz	Distance: 3m
Model: S123	
Manufacturer: Lenovo	

Note: Bluetooth 4.0



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	187.0956	42.38	-12.69	29.69	43.50	-13.81	QP			
2	254.7283	41.43	-10.76	30.67	46.00	-15.33	QP			
3	719.1994	31.95	-1.51	30.44	46.00	-15.56	QP			

**Produkte**  
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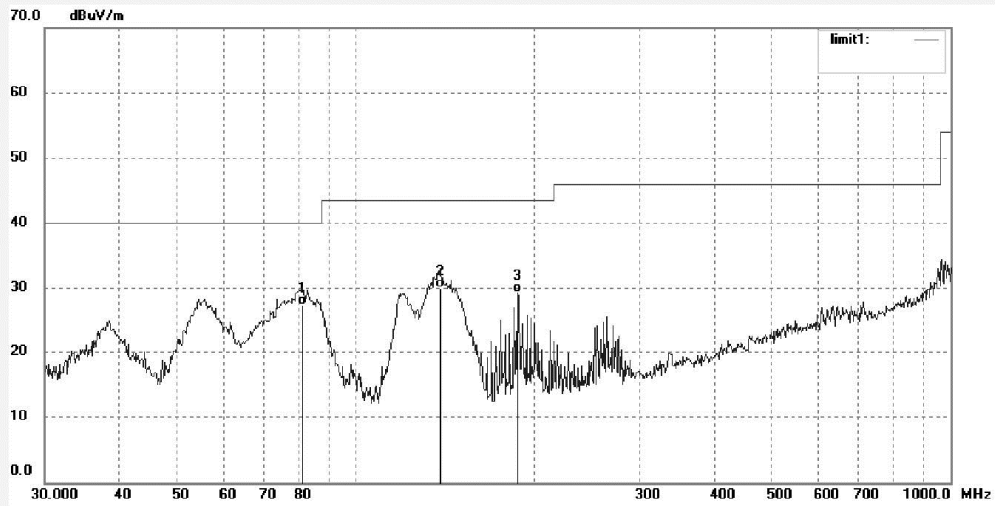
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 Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber  
 Tel:+86-0755-26503290  
 Fax:+86-0755-26503396

Job No.: lenovo #435	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 15/04/18/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: ThinkPad Stack Bluetooth Speaker	Engineer Signature:
Mode: TX 2440MHz	Distance: 3m
Model: S123	
Manufacturer: Lenovo	

Note: Bluetooth 4.0



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	81.2116	43.70	-16.25	27.45	40.00	-12.55	QP			
2	138.3873	44.90	-14.87	30.03	43.50	-13.47	QP			
3	187.0956	42.09	-12.69	29.40	43.50	-14.10	QP			

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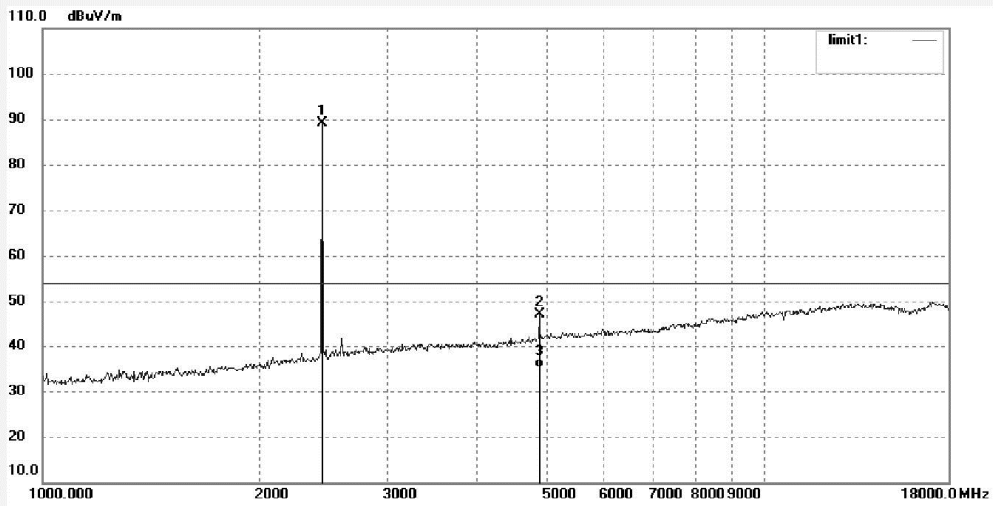
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 Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber  
 Tel:+86-0755-26503290  
 Fax:+86-0755-26503396

Job No.: lenovo #452	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 15/04/18/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: ThinkPad Stack Bluetooth Speaker	Engineer Signature:
Mode: TX 2440MHz	Distance: 3m
Model: S123	
Manufacturer: Lenovo	

Note: Bluetooth 4.0



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2440.000	96.59	-7.36	89.23	/	/	peak			
2	4880.012	46.90	0.13	47.03	74.00	-26.97	peak			
3	4880.012	35.07	0.13	35.20	54.00	-18.80	AVG			

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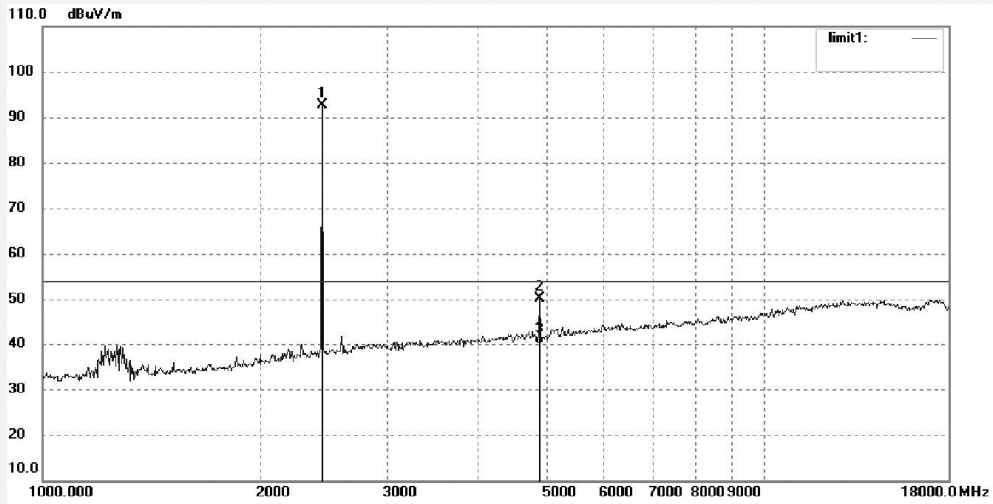
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 Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber  
 Tel:+86-0755-26503290  
 Fax:+86-0755-26503396

Job No.: lenovo #453	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 15/04/18/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: ThinkPad Stack Bluetooth Speaker	Engineer Signature:
Mode: TX 2440MHz	Distance: 3m
Model: S123	
Manufacturer: Lenovo	

Note: Bluetooth 4.0



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2440.000	99.96	-7.36	92.60	/	/	peak			
2	4880.022	50.08	0.13	50.21	74.00	-23.79	peak			
3	4880.022	39.74	0.13	39.87	54.00	-14.13	AVG			

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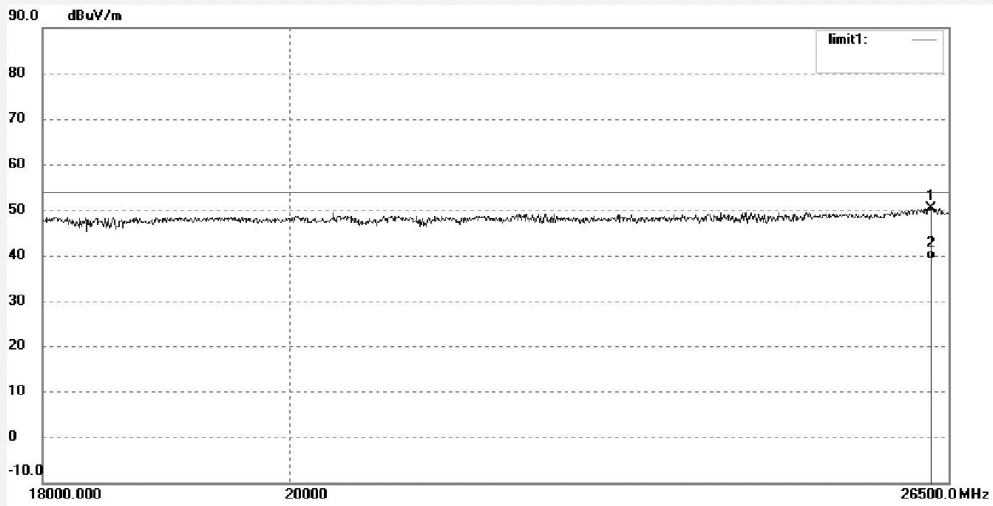
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 Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber  
 Tel:+86-0755-26503290  
 Fax:+86-0755-26503396

Job No.: lenovo #514	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 15/04/18/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: ThinkPad Stack Bluetooth Speaker	Engineer Signature:
Mode: TX 2440MHz	Distance: 3m
Model: S123	
Manufacturer: Lenovo	

Note: Bluetooth 4.0



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	26305.974	33.44	17.03	50.47	74.00	-23.53	peak			
2	26305.974	22.03	17.03	39.06	54.00	-14.94	AVG			

**Produkte**  
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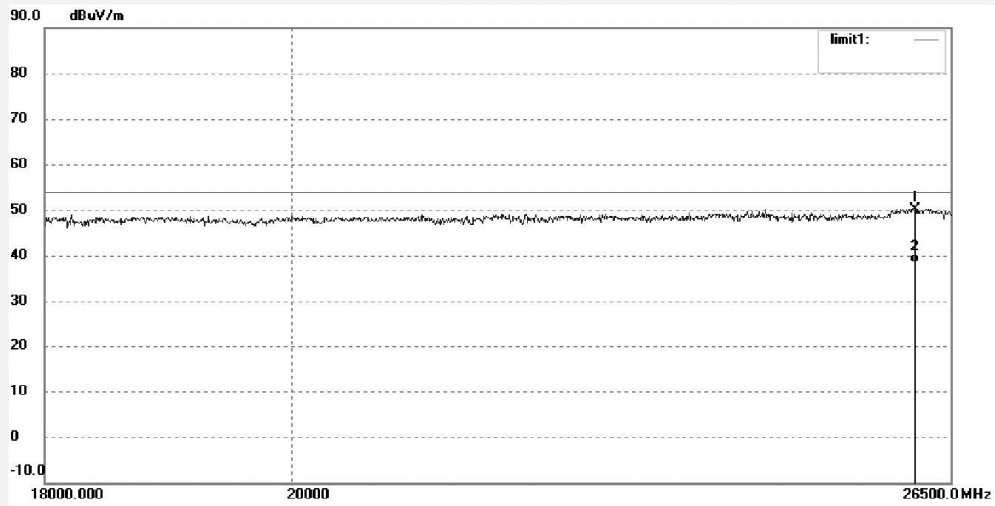
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 Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber  
 Tel:+86-0755-26503290  
 Fax:+86-0755-26503396

Job No.: lenovo #515	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 15/04/18/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: ThinkPad Stack Bluetooth Speaker	Engineer Signature:
Mode: TX 2440MHz	Distance: 3m
Model: S123	
Manufacturer: Lenovo	

Note: Bluetooth 4.0



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	26093.176	33.07	17.17	50.24	74.00	-23.76	peak			
2	26093.176	21.32	17.17	38.49	54.00	-15.51	AVG			

### High Channel

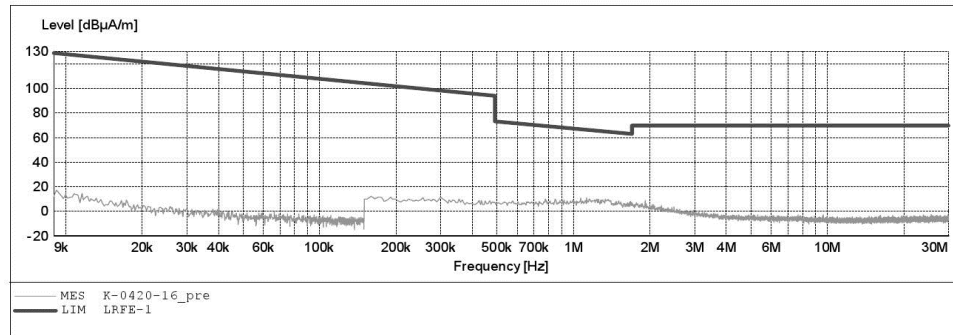
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**FCC Class B 3m Radiated**

EUT: ThinkPad Stack Bluetooth Speaker M/N:S123  
Manufacturer: Lenovo  
Operating Condition: TX 2480MHz  
Test Site: 2# Chamber  
Operator: LAN  
Test Specification: AC 120V/60Hz  
Comment: X  
Start of Test: 2015-4-21 /

**SCAN TABLE: "LFRE Fin"**

Short Description:	_SUB	STD	VTERM2	1.70			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer	
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M	
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M	





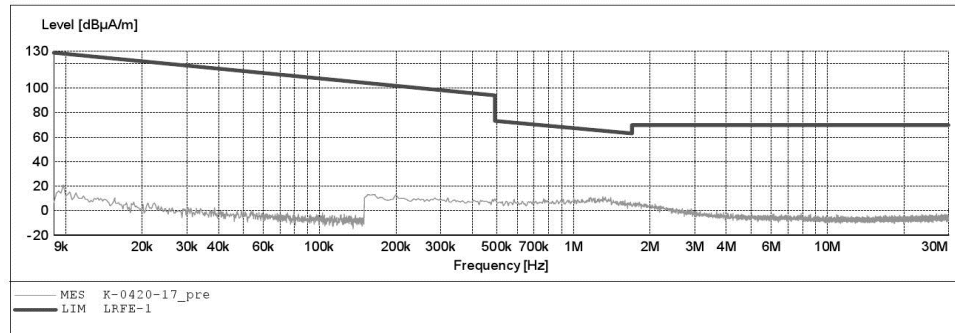
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**FCC Class B 3m Radiated**

EUT: ThinkPad Stack Bluetooth Speaker M/N:S123  
 Manufacturer: Lenovo  
 Operating Condition: TX 2480MHz  
 Test Site: 2# Chamber  
 Operator: LAN  
 Test Specification: AC 120V/60Hz  
 Comment: Y  
 Start of Test: 2015-4-21 /

**SCAN TABLE: "LFRE Fin"**

Short Description:			_SUB_STD_VTERM2 1.70			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



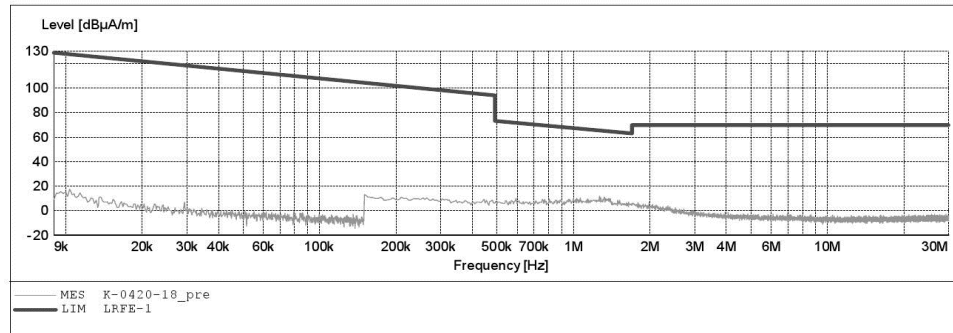
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**FCC Class B 3m Radiated**

EUT: ThinkPad Stack Bluetooth Speaker M/N:S123  
Manufacturer: Lenovo  
Operating Condition: TX 2480MHz  
Test Site: 2# Chamber  
Operator: LAN  
Test Specification: AC 120V/60Hz  
Comment: Z  
Start of Test: 2015-4-21 /

**SCAN TABLE: "LFRE Fin"**

Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



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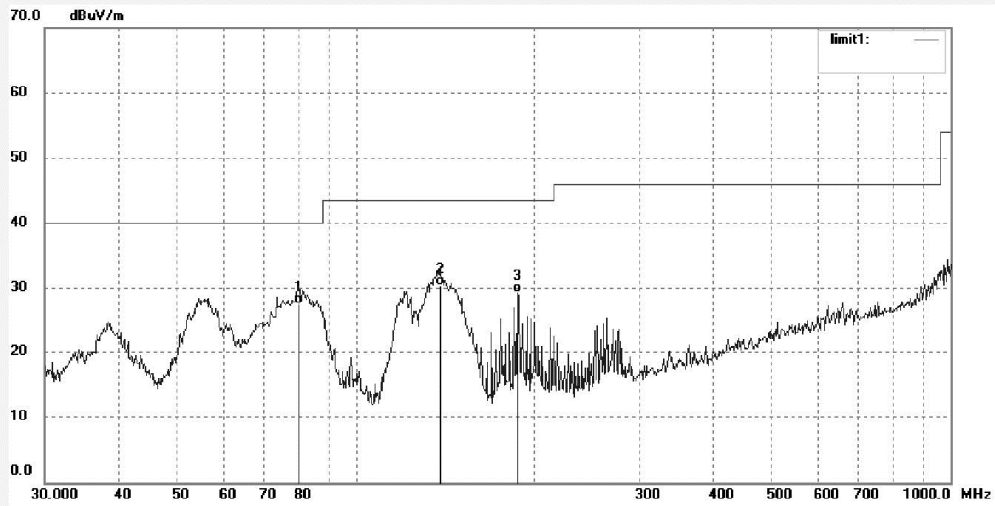
**ACCURATE TECHNOLOGY CO., LTD.**

F1,Bldg,A,Changyuan New Material Port Keyuan Rd,  
 Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber  
 Tel:+86-0755-26503290  
 Fax:+86-0755-26503396

Job No.: lenovo #436	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 15/04/18/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: ThinkPad Stack Bluetooth Speaker	Engineer Signature:
Mode: TX 2480MHz	Distance: 3m
Model: S123	
Manufacturer: Lenovo	

Note: Bluetooth 4.0



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	80.0806	44.01	-16.49	27.52	40.00	-12.48	QP			
2	138.3873	45.26	-14.87	30.39	43.50	-13.11	QP			
3	187.0956	41.97	-12.69	29.28	43.50	-14.22	QP			

**Produkte**  
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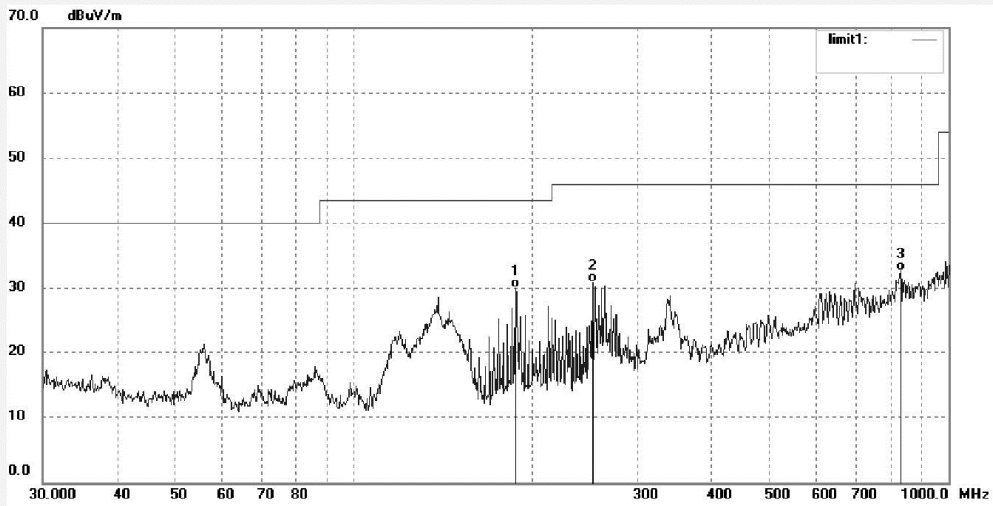
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 Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber  
 Tel:+86-0755-26503290  
 Fax:+86-0755-26503396

Job No.: lenovo #437	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 15/04/18/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: ThinkPad Stack Bluetooth Speaker	Engineer Signature:
Mode: TX 2480MHz	Distance: 3m
Model: S123	
Manufacturer: Lenovo	

Note: Bluetooth 4.0



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	187.0956	42.63	-12.69	29.94	43.50	-13.56	QP			
2	252.0627	41.61	-10.77	30.84	46.00	-15.16	QP			
3	830.4002	32.07	0.54	32.61	46.00	-13.39	QP			

**Produkte**  
 Products



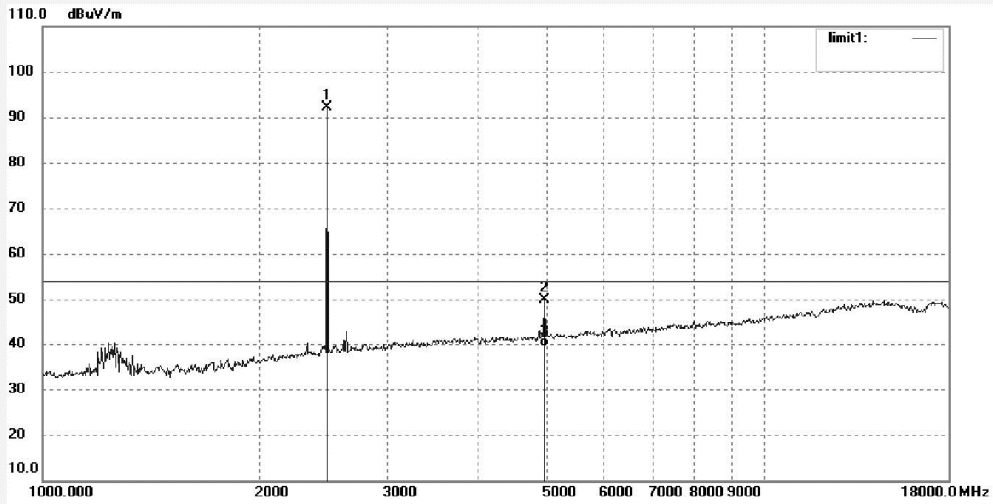
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 Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber  
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 Fax:+86-0755-26503396

Job No.: lenovo #454	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 15/04/18/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: ThinkPad Stack Bluetooth Speaker	Engineer Signature:
Mode: TX 2480MHz	Distance: 3m
Model: S123	
Manufacturer: Lenovo	

Note: Bluetooth 4.0



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2480.000	99.54	-7.37	92.17	/	/	peak			
2	4960.018	49.25	0.52	49.77	74.00	-24.23	peak			
3	4960.018	38.83	0.52	39.35	54.00	-14.65	AVG			

**Produkte**  
 Products



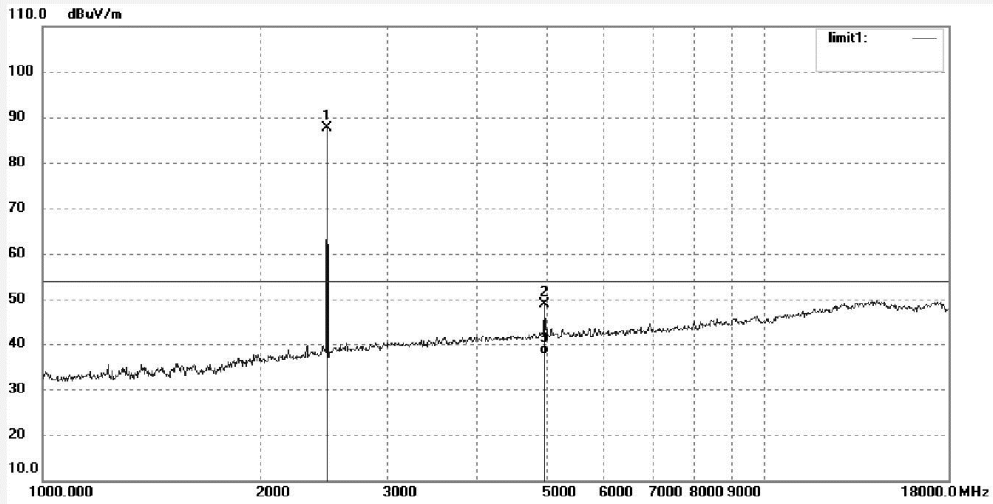
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Site: 2# Chamber  
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 Fax:+86-0755-26503396

Job No.: lenovo #455	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 15/04/18/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: ThinkPad Stack Bluetooth Speaker	Engineer Signature:
Mode: TX 2480MHz	Distance: 3m
Model: S123	
Manufacturer: Lenovo	

Note: Bluetooth 4.0



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2480.000	94.96	-7.37	87.59	/	/	peak			
2	4960.017	48.32	0.52	48.84	74.00	-25.16	peak			
3	4960.017	37.05	0.52	37.57	54.00	-16.43	AVG			

**Produkte**  
 Products



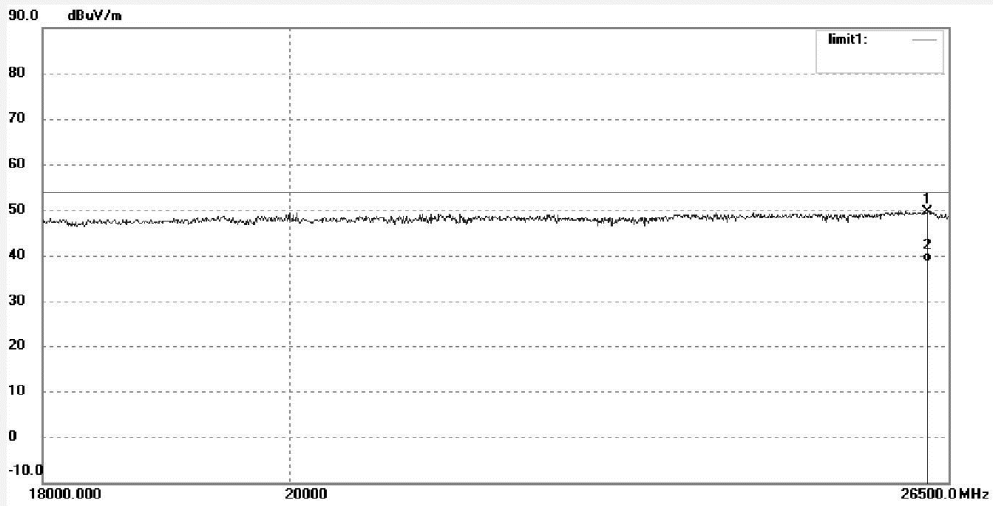
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Site: 2# Chamber  
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 Fax:+86-0755-26503396

Job No.: lenovo #516	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 15/04/18/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: ThinkPad Stack Bluetooth Speaker	Engineer Signature:
Mode: TX 2480MHz	Distance: 3m
Model: S123	
Manufacturer: Lenovo	

Note: Bluetooth 4.0



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	26265.307	32.64	17.06	49.70	74.00	-24.30	peak			
2	26265.307	21.45	17.06	38.51	54.00	-15.49	AVG			

**Produkte**  
 Products



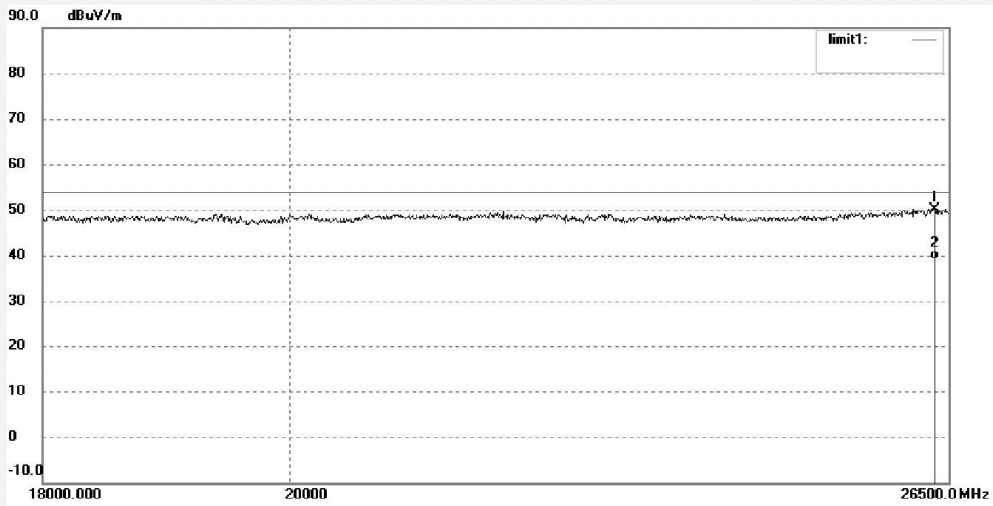
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Site: 2# Chamber  
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 Fax:+86-0755-26503396

Job No.: lenovo #517	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 15/04/18/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: ThinkPad Stack Bluetooth Speaker	Engineer Signature:
Mode: TX 2480MHz	Distance: 3m
Model: S123	
Manufacturer: Lenovo	

Note: Bluetooth 4.0



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	26336.515	33.23	17.01	50.24	74.00	-23.76	peak			
2	26336.515	22.04	17.01	39.05	54.00	-14.95	AVG			



**Produkte**  
 Products

**Appendix A.2: Radiated Emissions in Restricted Bands**  
 Low Channel

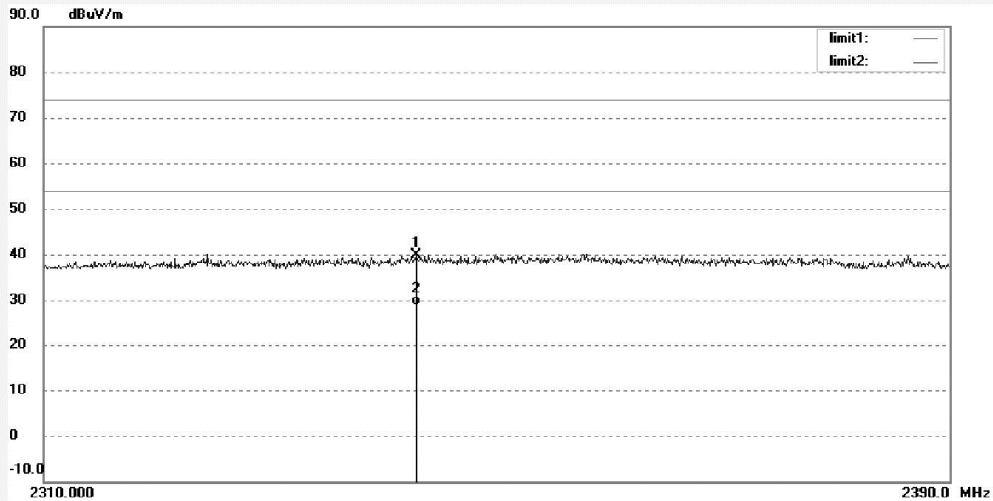


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 Fax:+86-0755-26503396

Job No.: lenovo #450	Polarization: Horizontal
Standard: FCC (Band Edge)	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 15/04/18/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: ThinkPad Stack Bluetooth Speaker	Engineer Signature:
Mode: TX 2402MHz	Distance: 3m
Model: S123	
Manufacturer: Lenovo	

Note: Bluetooth 4.0



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2342.560	47.65	-7.79	39.86	74.00	-34.14	peak			
2	2342.560	36.73	-7.79	28.94	54.00	-25.06	AVG			

**Produkte**  
 Products



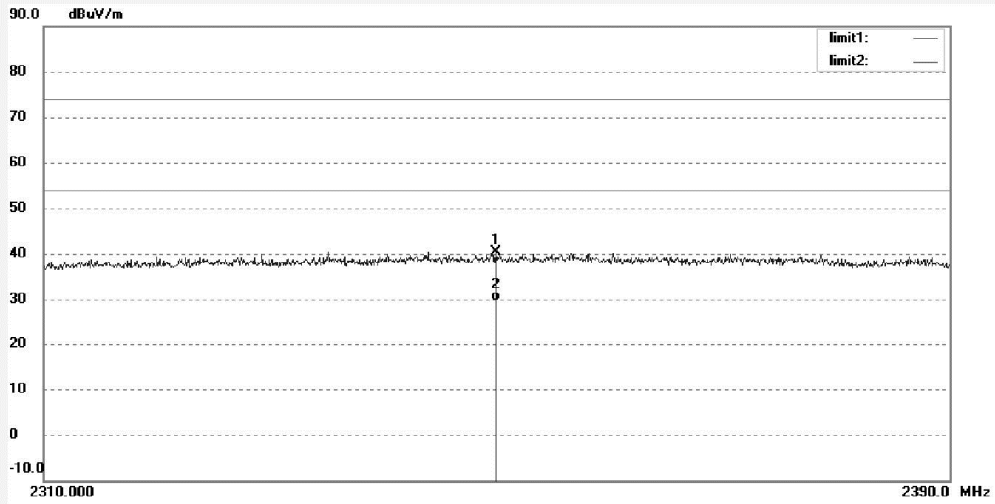
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Site: 2# Chamber  
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 Fax:+86-0755-26503396

Job No.: lenovo #451	Polarization: Vertical
Standard: FCC (Band Edge)	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 15/04/18/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: ThinkPad Stack Bluetooth Speaker	Engineer Signature:
Mode: TX 2402MHz	Distance: 3m
Model: S123	
Manufacturer: Lenovo	

Note: Bluetooth 4.0



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2349.600	48.29	-7.79	40.50	74.00	-33.50	peak			
2	2349.600	37.48	-7.79	29.69	54.00	-24.31	AVG			

**Produkte**  
 Products

High Channel

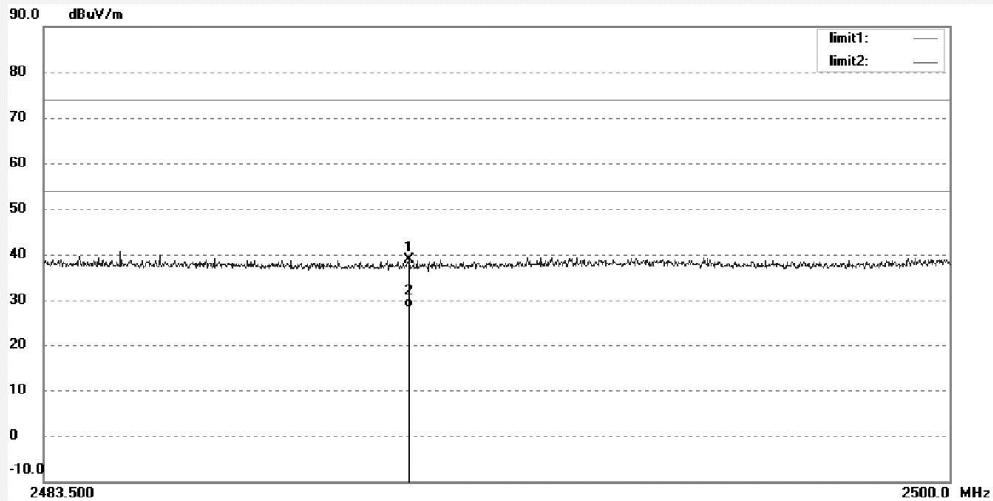


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Site: 2# Chamber  
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 Fax:+86-0755-26503396

Job No.: lenovo #456	Polarization: Vertical
Standard: FCC (Band Edge)	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 15/04/18/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: ThinkPad Stack Bluetooth Speaker	Engineer Signature:
Mode: TX 2480MHz	Distance: 3m
Model: S123	
Manufacturer: Lenovo	

Note: Bluetooth 4.0



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2490.149	46.18	-7.39	38.79	74.00	-35.21	peak			
2	2490.149	35.77	-7.39	28.38	54.00	-25.62	AVG			

**Produkte**  
 Products



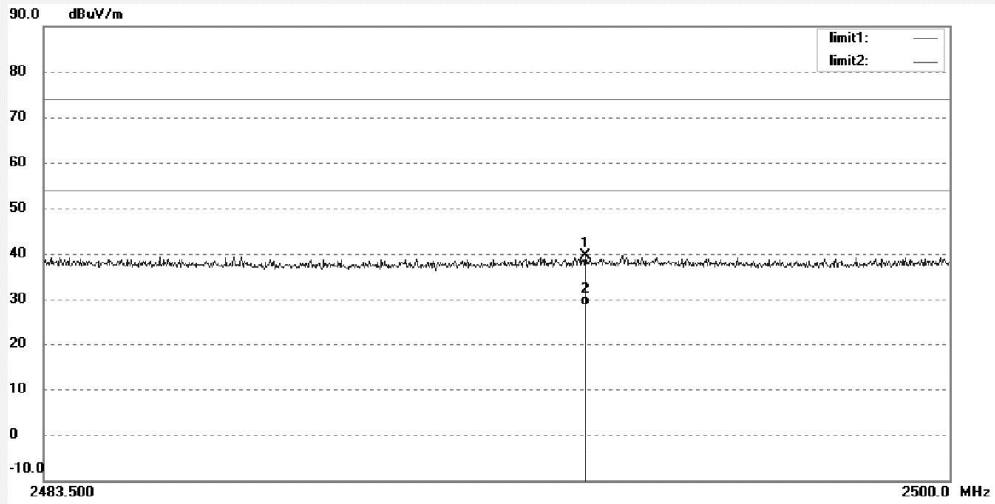
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 Fax:+86-0755-26503396

Job No.: lenovo #457	Polarization: Horizontal
Standard: FCC (Band Edge)	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 15/04/18/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: ThinkPad Stack Bluetooth Speaker	Engineer Signature:
Mode: TX 2480MHz	Distance: 3m
Model: S123	
Manufacturer: Lenovo	

Note: Bluetooth 4.0



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2493.367	47.12	-7.39	39.73	74.00	-34.27	peak			
2	2493.367	36.01	-7.39	28.62	54.00	-25.38	AVG			

Produkte  
 Products

**Appendix A.3: Radiated Emissions**  
 Aux in playing with battery

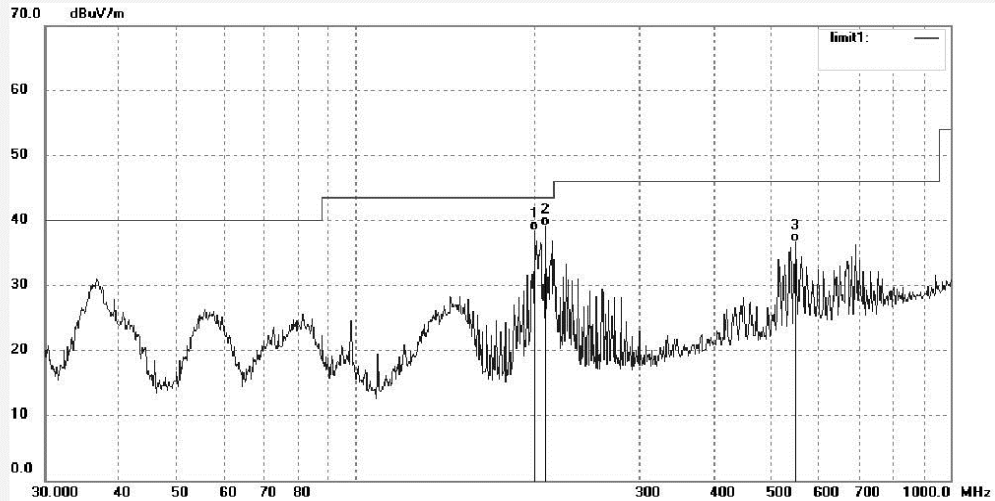


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Site: 2# Chamber  
 Tel:+86-0755-26503290  
 Fax:+86-0755-26503396

Job No.: lenovo 1#03	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 15/04/20/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: ThinkPad Stack Bluetooth Speaker	Engineer Signature:
Mode: Aux in	Distance: 3m
Model: S123	
Manufacturer: Lenovo	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	200.0432	50.78	-12.44	38.34	43.50	-5.16	QP			
2	208.6579	51.25	-12.21	39.04	43.50	-4.46	QP			
3	548.3600	40.40	-3.67	36.73	46.00	-9.27	QP			

**Produkte**  
 Products



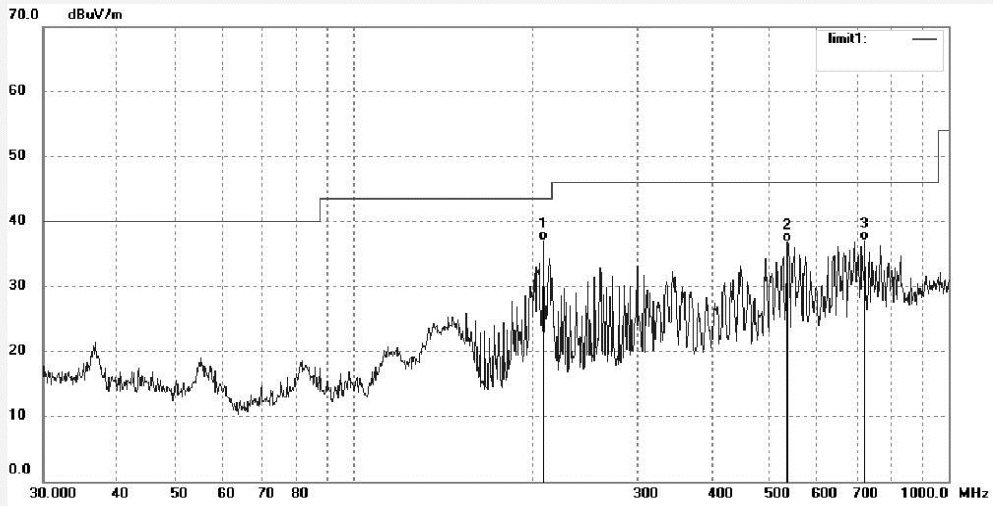
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Site: 2# Chamber  
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 Fax:+86-0755-26503396

Job No.: lenovo 1#04	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 15/04/20/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: ThinkPad Stack Bluetooth Speaker	Engineer Signature:
Mode: Aux in	Distance: 3m
Model: S123	
Manufacturer: Lenovo	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	208.6579	49.28	-12.21	37.07	43.50	-6.43	QP			
2	536.9208	40.73	-3.91	36.82	46.00	-9.18	QP			
3	723.7930	38.45	-1.43	37.02	46.00	-8.98	QP			

**Produkte**  
 Products



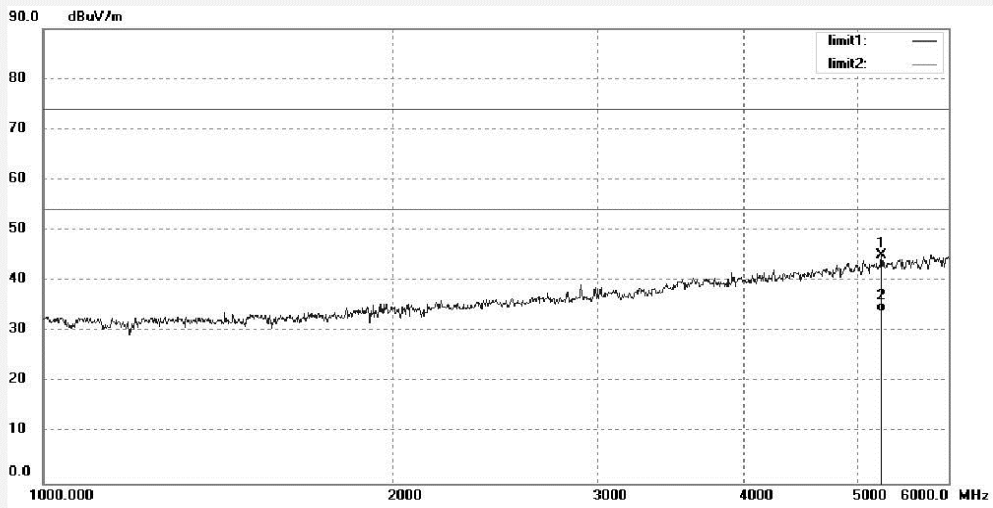
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 Fax:+86-0755-26503396

Job No.: lenovo 1#05	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 15/04/20/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: ThinkPad Stack Bluetooth Speaker	Engineer Signature:
Mode: Aux in	Distance: 3m
Model: S123	
Manufacturer: Lenovo	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	5254.944	44.24	0.87	45.11	74.00	-28.89	peak			
2	5254.944	33.01	0.87	33.88	54.00	-20.12	AVG			

Produkte  
 Products



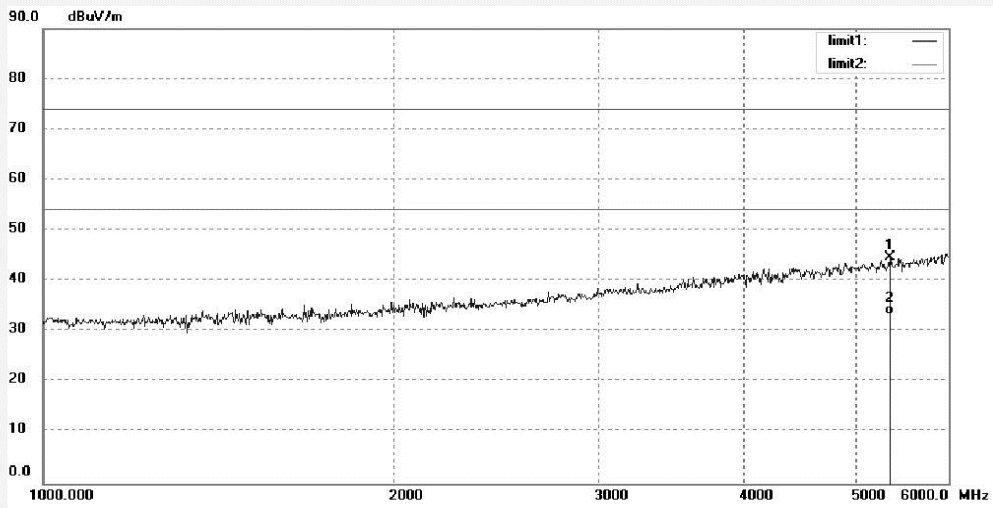
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Job No.: lenovo 1#06	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 15/04/20/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: ThinkPad Stack Bluetooth Speaker	Engineer Signature:
Mode: Aux in	Distance: 3m
Model: S123	
Manufacturer: Lenovo	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	5340.371	43.75	0.88	44.63	74.00	-29.37	peak			
2	5340.371	32.56	0.88	33.44	54.00	-20.56	AVG			



**Produkte**  
 Products

Aux in playing with AC/DC adapter

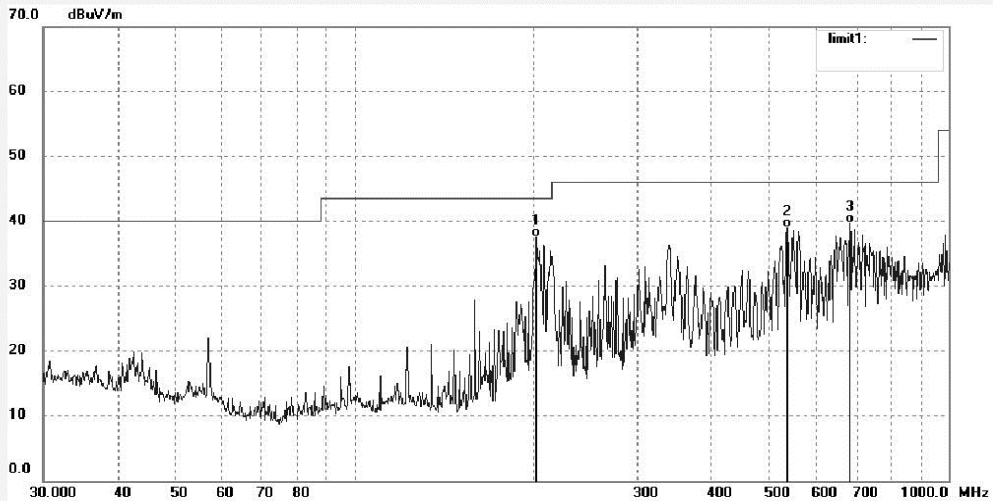


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Site: 2# Chamber  
 Tel:+86-0755-26503290  
 Fax:+86-0755-26503396

Job No.: lenovo 1#01	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 15/04/20/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: ThinkPad Stack Bluetooth Speaker	Engineer Signature:
Mode: Aux in	Distance: 3m
Model: S123	
Manufacturer: Lenovo	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	202.8103	49.84	-12.35	37.49	43.50	-6.01	QP			
2	535.7073	42.90	-3.92	38.98	46.00	-7.02	QP			
3	682.3484	41.57	-2.00	39.57	46.00	-6.43	QP			

Produkte  
 Products

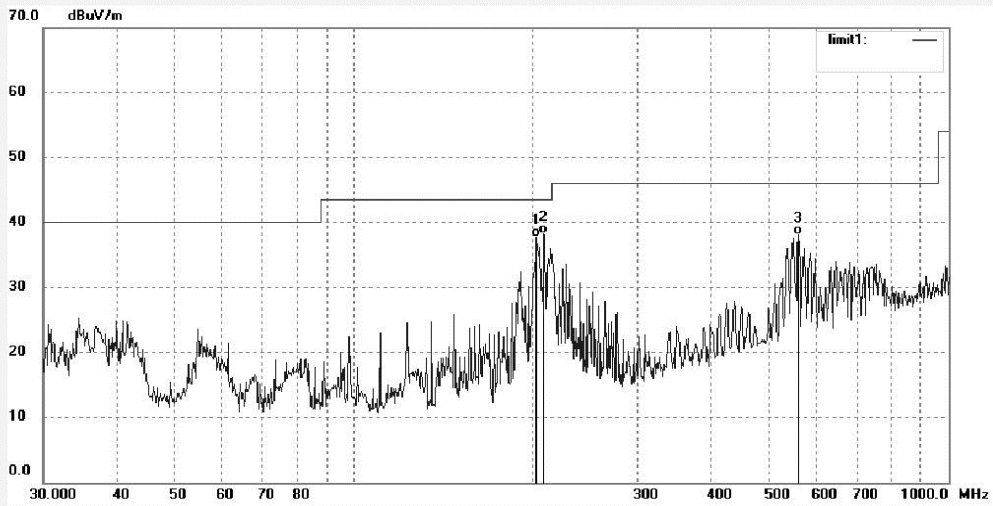


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Site: 2# Chamber  
 Tel:+86-0755-26503290  
 Fax:+86-0755-26503396

Job No.: lenovo 1#02	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 15/04/20/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: ThinkPad Stack Bluetooth Speaker	Engineer Signature:
Mode: Aux in	Distance: 3m
Model: S123	
Manufacturer: Lenovo	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	202.8103	50.10	-12.35	37.75	43.50	-5.75	QP			
2	208.5801	50.45	-12.21	38.24	43.50	-5.26	QP			
3	558.7301	41.46	-3.47	37.99	46.00	-8.01	QP			

**Produkte**  
 Products



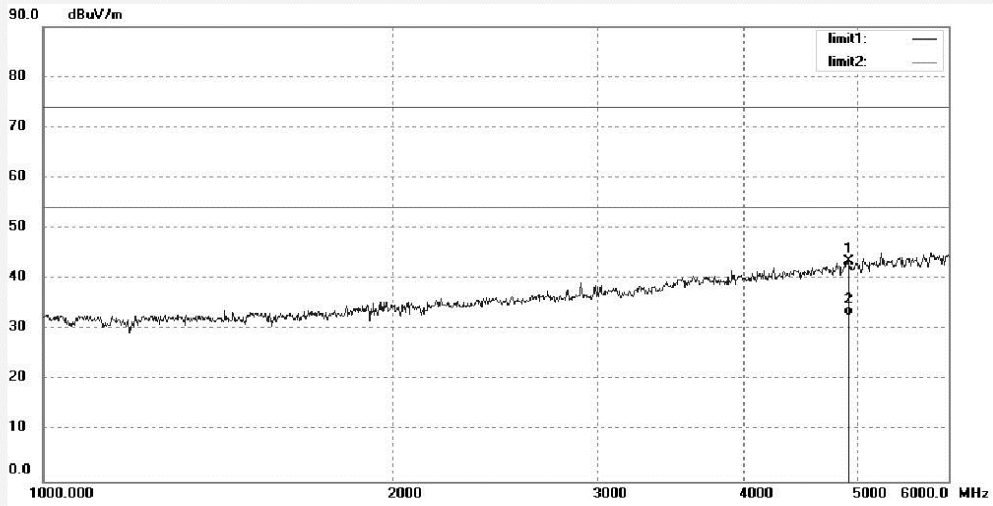
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Site: 2# Chamber  
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 Fax:+86-0755-26503396

Job No.: lenovo 1#07	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 15/04/20/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: ThinkPad Stack Bluetooth Speaker	Engineer Signature:
Mode: Aux in	Distance: 3m
Model: S123	
Manufacturer: Lenovo	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4926.683	43.22	0.37	43.59	74.00	-30.41	peak			
2	4926.683	32.45	0.37	32.82	54.00	-21.18	AVG			

**Produkte**  
 Products



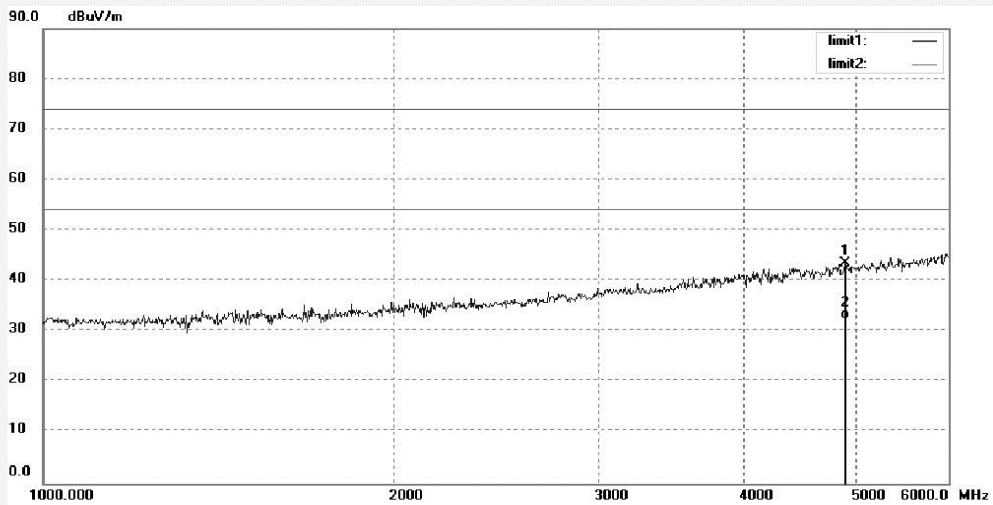
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Site: 2# Chamber  
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 Fax:+86-0755-26503396

Job No.: lenovo 1#08	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 15/04/20/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: ThinkPad Stack Bluetooth Speaker	Engineer Signature:
Mode: Aux in	Distance: 3m
Model: S123	
Manufacturer: Lenovo	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4891.499	43.40	0.20	43.60	74.00	-30.40	peak			
2	4891.499	32.37	0.20	32.57	54.00	-21.43	AVG			

**Appendix A.4: Conducted Emissions**  
 Bluetooth playing with charging

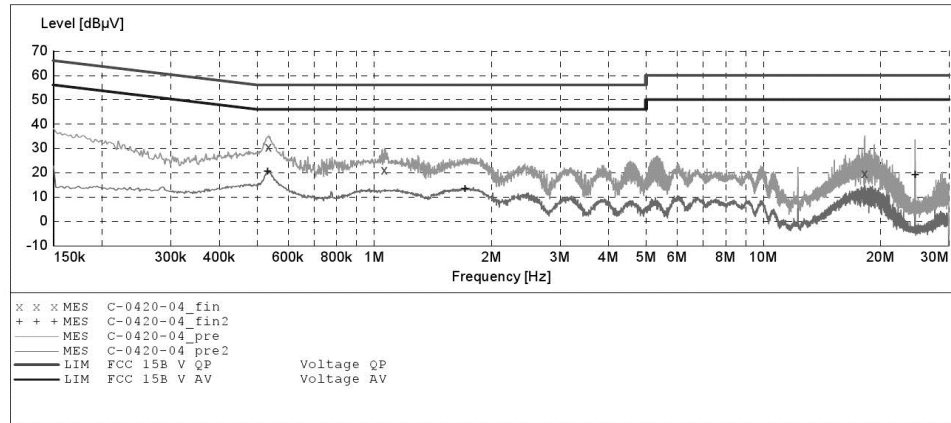
**ACCURATE TECHNOLOGY CO., LTD**

**CONDUCTED EMISSION STANDARD FCC PART 15 B**

EUT: TinkPad Stack Bluetooth Speaker M/N:S123  
 Manufacturer: Lenovo  
 Operating Condition: On with Bluetooth  
 Test Site: 1#Shielding Room  
 Operator: LAN  
 Test Specification: N 120V/60Hz  
 Comment: Mains Port  
 Start of Test: 2015-4-20 /

**SCAN TABLE: "V 150K-30MHz fin"**

Short Description: \_SUB\_STD\_VTERM2 1.70  
 Start Stop Step Detector Meas. IF Transducer  
 Frequency Frequency Width Time Bandw.  
 150.0 kHz 30.0 MHz 4.5 kHz QuasiPeak 1.0 s 9 kHz NSLK8126 2008  
 Average



**MEASUREMENT RESULT: "C-0420-04\_fin"**

2015-4-20

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.536000	30.50	11.5	56	25.5	QP	N	GND
1.064000	21.00	11.6	56	35.0	QP	N	GND
18.263000	19.60	11.9	60	40.4	QP	N	GND

**MEASUREMENT RESULT: "C-0420-04\_fin2"**

2015-4-20

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.532000	20.50	11.5	46	25.5	AV	N	GND
1.710000	13.20	11.6	46	32.8	AV	N	GND
24.576500	19.10	12.0	50	30.9	AV	N	GND

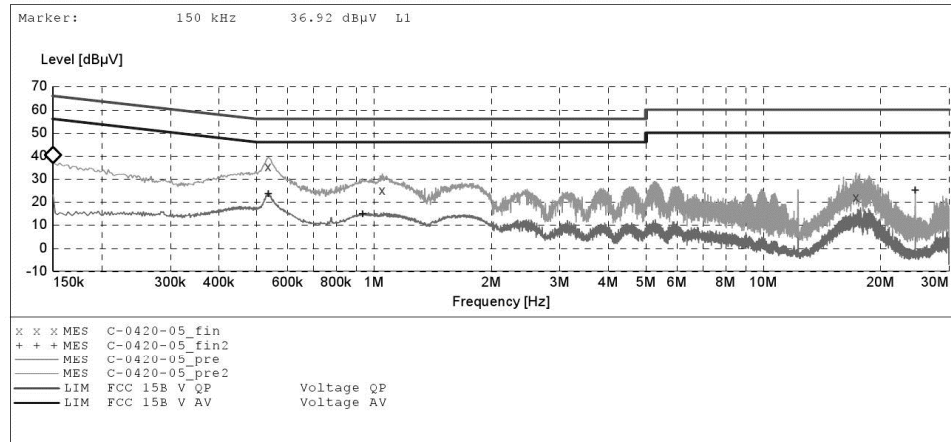
**ACCURATE TECHNOLOGY CO., LTD**

**CONDUCTED EMISSION STANDARD FCC PART 15 B**

EUT: TinkPad Stack Bluetooth Speaker M/N:S123  
 Manufacturer: Lenovo  
 Operating Condition: On with Bluetooth  
 Test Site: 1#Shielding Room  
 Operator: LAN  
 Test Specification: L 120V/60Hz  
 Comment: Mains Port  
 Start of Test: 2015-4-20 /

**SCAN TABLE: "V 150K-30MHz fin"**

Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
150.0 kHz	30.0 MHz	4.5 kHz	QuasiPeak	1.0 s	9 kHz	NSLK8126 2008
Average						



**MEASUREMENT RESULT: "C-0420-05\_fin"**

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.536000	35.20	11.5	56	20.8	QP	L1	GND
1.052000	24.90	11.6	56	31.1	QP	L1	GND
17.336000	21.90	11.9	60	38.1	QP	L1	GND

**MEASUREMENT RESULT: "C-0420-05\_fin2"**

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.536000	23.40	11.5	46	22.6	AV	L1	GND
0.936000	14.70	11.6	46	31.3	AV	L1	GND
24.576500	25.10	12.0	50	24.9	AV	L1	GND

**Aux in playing with charging**

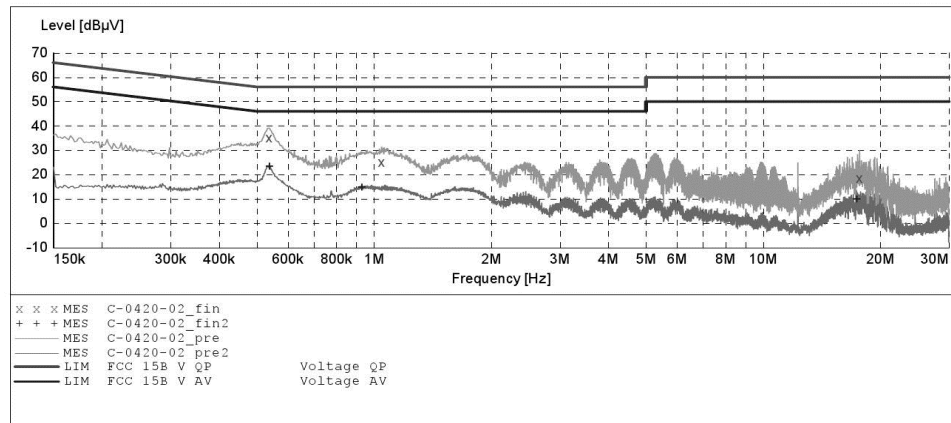
**ACCURATE TECHNOLOGY CO., LTD**

**CONDUCTED EMISSION STANDARD FCC PART 15 B**

EUT: TinkPad Stack Bluetooth Speaker M/N:S123  
 Manufacturer: Lenovo  
 Operating Condition: Aux in  
 Test Site: 1#Shielding Room  
 Operator: LAN  
 Test Specification: L 120V/60Hz  
 Comment: Mains Port  
 Start of Test: 2015-4-20 /

**SCAN TABLE: "V 150K-30MHz fin"**

Short Description: \_SUB\_STD\_VTERM2 1.70  
 Start Stop Step Detector Meas. IF Transducer  
 Frequency Frequency Width Time Bandw.  
 150.0 kHz 30.0 MHz 4.5 kHz QuasiPeak 1.0 s 9 kHz NSLK8126 2008  
 Average



**MEASUREMENT RESULT: "C-0420-02\_fin"**

2015-4-20

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.538000	35.00	11.5	56	21.0	QP	L1	GND
1.046000	25.10	11.6	56	30.9	QP	L1	GND
17.696000	18.50	11.9	60	41.5	QP	L1	GND

**MEASUREMENT RESULT: "C-0420-02\_fin2"**

2015-4-20

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.538000	23.30	11.5	46	22.7	AV	L1	GND
0.930000	14.80	11.6	46	31.2	AV	L1	GND
17.381000	9.80	11.9	50	40.2	AV	L1	GND

**ACCURATE TECHNOLOGY CO., LTD**

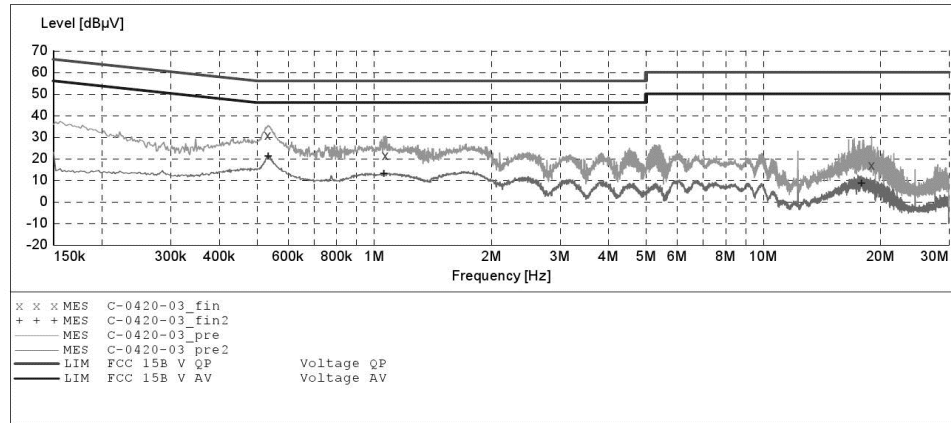
**CONDUCTED EMISSION STANDARD FCC PART 15 B**

EUT: TinkPad Stack Bluetooth Speaker M/N:S123  
 Manufacturer: Lenovo  
 Operating Condition: Aux in  
 Test Site: 1#Shielding Room  
 Operator: LAN  
 Test Specification: N 120V/60Hz  
 Comment: Mains Port  
 Start of Test: 2015-4-20 /

**SCAN TABLE: "V 150K-30MHz fin"**

Short Description: \_SUB\_STD\_VTERM2 1.70  

Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
150.0 kHz	30.0 MHz	4.5 kHz	QuasiPeak	1.0 s	9 kHz	NSLK8126 2008
Average						



**MEASUREMENT RESULT: "C-0420-03\_fin"**

2015-4-20

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.534000	30.70	11.5	56	25.3	QP	N	GND
1.070000	21.40	11.6	56	34.6	QP	N	GND
19.014500	16.70	11.9	60	43.3	QP	N	GND

**MEASUREMENT RESULT: "C-0420-03\_fin2"**

2015-4-20

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.534000	20.90	11.5	46	25.1	AV	N	GND
1.060000	12.90	11.6	46	33.1	AV	N	GND
17.880500	8.60	11.9	50	41.4	AV	N	GND



# Appendix B

## Test Results of RF Exposure

APPENDIX B.1: RF EXPOSURE COMPLIANCE ..... 2

## Appendix B.1: RF Exposure Compliance

### Radio Frequency Exposure Compliance

#### RESULT:

Passed

Test standard : FCC 1.1310  
RSS-102 Issue 5

This device is mobile device, and the applicant declares that the minimum separation distance is greater than 20cm. Therefore MPE measurement or computational modeling should be used to determine compliance.

MPE Calculation  
According to the formula

$$Pd = \frac{P_{out} * G}{4R^2\pi}$$

Where

Pd = power density in mW/cm<sup>2</sup> or W/m<sup>2</sup>

Pout = output power to antenna in mW or W

G = Antenna gain in numeric

π = 3.14159

R = Distance between observation point and the center of radiator in cm or m

In here

Pout = 6.24dBm = 4.21mW

G = -0.13dBi = 0.97 (numeric)

R = 20cm

For Bluetooth operation:

$$Pd = \frac{P_{out} * G}{4R^2\pi} = \frac{4.21 * 0.97}{4 * 20^2 * 3.14159} = 0.00081mW / cm^2 < 1mW/cm^2 \text{ for FCC limit}$$

$$Pd = \frac{P_{out} * G}{4R^2\pi} = \frac{0.00421 * 0.97}{4 * 0.2^2 * 3.14159} = 0.0081W / m^2 < 5.4W/m^2 \text{ for IC limit}$$

The summed maximum permissible exposure (MPE) level is 0.00081mW/cm<sup>2</sup> and 0.0081W/m<sup>2</sup>. It is less than MPE limit 1mW/cm<sup>2</sup> for FCC and 5.4W/m<sup>2</sup> for IC, therefore the device compliance with MPE limit.