

Test Report No.

16034488 001

Seite 1 von 48

Page 1 of 48

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (EMISSION)

Test Information

Manufacturer:

ION

Test Item: Identification: Wireless speaker **ISPOF FREESOUND** FCC Part 15 B

Test Standard: Test Detail:

Conducted Emission

Operation Mode: Climate Condition:

Test Voltage/ Freq.:

22 °C; 50 %RH; AC 120 V/ 60 Hz

Port / Line: Receipt No.: AC Mains(L1+N) 173061380

Report No.: Result:

16034488 001

Pass

Comment:

Hardware Setup: Level Unit:

1phase LISN ESH3-Z5 to ESCI

dBµV

Subrange 150kHz - 30MHz **Detectors** Peak; Average IF Bandwidth

Step Size 4.5kHz

101 kPa.

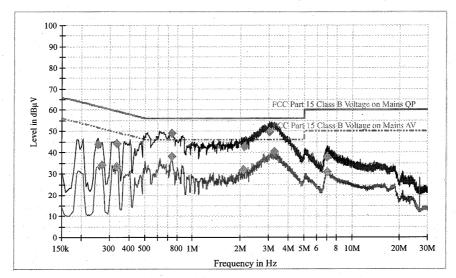
Meas, Time

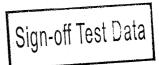
10ms.

Receiver **ESCI**

9kHz

FCC PART15 DV ESH3-Z5 150k to 30M ESCI









Appendix 1



Prüfbericht - Nr.:

Test Report No.

16034488 001

Seite 2 von 48

Page 2 of 48

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.253500	43.6	1000.0	9.000	GN	L1	10.1	18.0	61.6	
0.334500	44.1	1000.0	9.000	GN	L1	9.9	15.2	59.3	
0.739500	48.8	1000.0	9.000	GN	L1	10.0	7.2	56.0	
2.121000	42.8	1000.0	9.000	GN	L1	10.1	13.2	56.0	
3.043500	49.7	1000.0	9.000	GN	N	10.2	6.3	56.0	
6.999000	37.6	1000.0	9.000	GN	N	10.5	22.4	60.0	

Final Result 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.267000	34.0	1000.0	9.000	GN	L1	9.9	17.2	51.2	· ·
0.334500	33.4	1000.0	9.000	GN	L1	9.9	15.9	49.3	
0.739500	38.0	1000.0	9.000	GN	. N	10.0	8.0	46.0	
2.094000	31.9	1000.0	9.000	GN	L1	10.1	14.1	46.0	
3.250500	40.4	1000.0	9.000	GN	N	10.3	5.6	46.0	
7.003500	30.9	1000.0	9.000	GN	N	10.5	19.1	50.0	

Sign-off Test Data







16034488 001

Seite 3 von 48

Page 3 of 48

Test Report No.

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

101 kPa.

EMC Test Record (Emission)

Common Information

Manufacturer: ION

Test Item: Wireless speaker Identification: **iSPOF FREESOUND** Test Standard: FCC Part 15

RE

Test Detail:

Operation Mode: Tx @ Middle Channel

23 ℃; 50 AC120V / 60Hz Climate Condition: 50 %RH;

Test Voltage/ Freq: Receipt No: 173061380 Report No: 16034488 001

Result: Pass

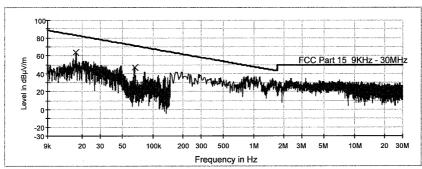
Comment: Test distance is 3m, Horizontal

Subrange 1

Frequency Range: 9kHz - 30MHz Receiver: TUV ESCI 3

Transducer: TUV SAC Active Loop Antenna HFH2-Z2 / TUV ESCI3

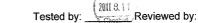
Pre TUV 9K to 30M HFH2-Z2



Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Average (dΒμV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
0.017320		63.4	20.7			Н
0.065720		46.5	20.3			Н
0.878000	33.1		20.3	15.6	48.7	Н
7.066000	27.8		21.9	21.7	49.5	Н

Sign-off Test Data





Appendix 1



Prüfbericht - Nr.:

16034488 001

Seite 4 von 48

Page 4 of 48

Test Report No.

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:

ION

Test Item:

Wireless speaker

Identification:

iSPOF FREESOUND FCC Part 15

Test Standard: Test Detail:

RE

Operation Mode:

Tx @ Middle Channel

Climate Condition:

50 %RH;

Test Voltage/ Freq:

23 ℃; 50 AC120V / 60Hz

Receipt No:

173061380

Report No:

16034488 001

Result:

Pass

Comment:

Test distance is 3m, Vertical

Subrange 1

Frequency Range:

9kHz - 30MHz

Receiver:

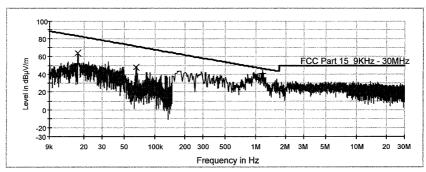
TUV ESCI 3

Transducer:

TUV SAC Active Loop Antenna HFH2-Z2 / TUV ESCI3

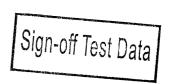
101 kPa.





Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Average (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
0.017320		64.1	20.7			V
0.065640		48.0	20.3			V
1.186000	41.0		20.3	5.1	46.1	V
7.322000	26.8		21.9	22.7	49.5	V









Test Report No.

16034488 001

Seite 5 von 48

Page 5 of 48

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer: ION

Test Item: Wireless speaker Identification: iSPOF FREESOUND Test Standard: FCC Part 15

Test Detail: RE

Operation Mode: Tx @ Low Channel

Climate Condition: 23 ℃; 50 %RH; 101 kPa. Test Voltage/ Freq: AC120V / 60Hz

 Test Voltage/ Freq:
 AC120V / 60H:

 Receipt No:
 173061380

 Report No:
 16034488 001

 Result:
 Pass

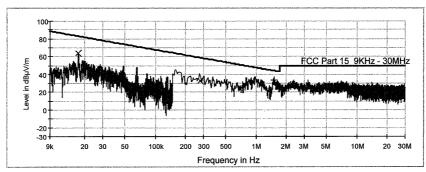
Comment: Test distance is 3m, Horizontal

Subrange 1

Frequency Range: 9kHz - 30MHz Receiver: 7UV ESCI 3

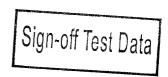
Transducer: TUV SAC Active Loop Antenna HFH2-Z2 / TUV ESCI3

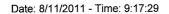




Limit and Margin QP

Frequency	QuasiPeak	Average	Corr.	Margin	Limit	Polarization
(MHz)	(dBµV/m)	(dBµV/m)	(dB)	(dB)	(dBµV/m)	
		100		1600		
0.017320		63.3	20.7			Н
0.278000		32.9	20.9			Н
1.518000	33.9		20.2	10.1	44.0	Н
6.930000	28.0		21.9	21.5	49.5	Н







Appendix 1



Prüfbericht - Nr.:

Test Report No.

16034488 001

Seite 6 von 48

Page 6 of 48

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

TUV Rheinland (Guangdong) Ltd.

Manufacturer:

ION

Test Item:

Wireless speaker iSPOF FREESOUND

Identification: Test Standard:

FCC Part 15

Test Detail:

RE

Operation Mode:

Tx @ Low Channel

Climate Condition:

50 %RH;

Test Voltage/ Freq:

23 ℃; 50 AC120V / 60Hz

173061380

Receipt No:

Report No:

16034488 001

Result:

Pass

Comment:

Test distance is 3m, Vertical

Subrange 1

Frequency Range:

9kHz - 30MHz

Receiver:

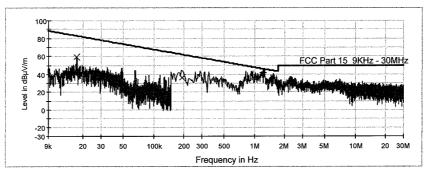
TUV ESCI 3

Transducer:

TUV SAC Active Loop Antenna HFH2-Z2 / TUV ESCI3

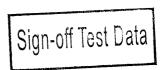
101 kPa.





Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Average (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
0.017320		59.5	20.7			V
0.190000		36.6	20.8			V
1.230000	41.2		20.3	4.6	45.8	٧
2.318000	33.0		20.3	16.5	49.5	٧



Date: 8/11/2011 - Time: 9:12:22



Appendix 1



Prüfbericht - Nr.:

16034488 001

Seite 7 von 48

Page 7 of 48

Test Report No.

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

ION Manufacturer:

Test Item: Identification: Wireless speaker iSPOF FREESOUND FCC Part 15

Test Standard: Test Detail:

RE

Operation Mode: Climate Condition:

Tx @ High Channel 23 ℃; 50 AC120V / 60Hz 50 %RH;

Test Voltage/ Freq:

Receipt No: Report No:

173061380 16034488 001

Result:

Pass

Comment:

Test distance is 3m, Horizontal

Subrange 1

Frequency Range: Receiver:

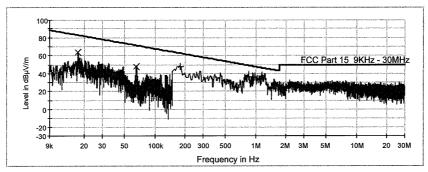
9kHz - 30MHz **TUV ESCI 3**

Transducer:

TUV SAC Active Loop Antenna HFH2-Z2 / TUV ESCI3

101 kPa.





Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Average (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
0.017320	*** 0 · 5.00 (0 *********************************	64.0	20.7			Н
0.065640		47.7	20.3			Н
0.178000	47.4		20.8	15.2	62.6	Н
0.850000	36.1		20.4	12.9	49 0	Н

Sign-off Test Data



Date: 8/11/2011 - Time: 9:31:14



Test Report No.

16034488 001

Seite 8 von 48

Page 8 of 48

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:

ION

Test Item: Identification: Wireless speaker **ISPOF FREESOUND**

Test Standard:

FCC Part 15

Test Detail:

RE

Operation Mode: Climate Condition: Tx @ High Channel 50 %RH;

Test Voltage/ Freq:

23 ℃; 50 AC120V / 60Hz

Receipt No: Report No:

173061380

16034488 001

Result:

Pass

Comment:

Test distance is 3m, Vertical

Subrange 1

Frequency Range:

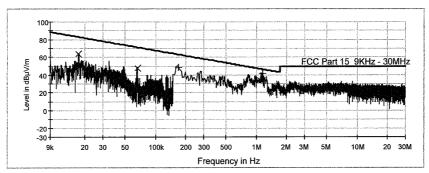
9kHz - 30MHz TUV ESCI 3

Receiver: Transducer:

TUV SAC Active Loop Antenna HFH2-Z2 / TUV ESCI3

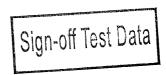
101 kPa.

Pre TUV 9K to 30M HFH2-Z2



Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Average (dBμV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
0.017320		63.9	20.7			V
0.065720		47.5	20.3			٧
0.170000	48.7		20.7	14.3	63.0	٧
1.154000	41.4		20.3	5.0	46.4	V





Date: 8/11/2011 - Time: 9:42:19

Appendix 1



Prüfbericht - Nr.:

16034488 001

Seite 9 von 48

Page 9 of 48

Test Report No.

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer: ION

Test Item: Wireless speaker Identification: iSPOF FREESOUND Test Standard: FCC Part 15

Test Standard: FCC Test Detail: RE

Operation Mode: Tx @ Low Channel

Climate Condition: 23 ℃; 50 %RH; 101 kPa. Test Voltage/ Freq: AC120V / 60Hz

 Test Voltage/ Freq:
 AC120V / 60H

 Receipt No:
 173061380

 Report No:
 16034488 001

Result: Pass

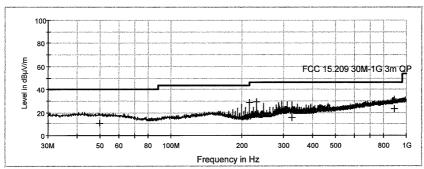
Comment: Test distance is 3m, Horizontal

Subrange 1

Frequency Range: 30M-1GHz Receiver: TUV ESCI 3

Transducer: TUV SAC UVLB 9168/ TUV ESCI 3-TUV SAC UVLB 9168

FCC 15.209 30M-1G sweep



Limit and Margin QP

Date: 8/11/2011 - Time: 5:21:25

Frequency (MHz)	QuasiPeak (dBµV/m)	Corr, (dB)	Margin - QPK	Limit - QPK (dBµV/m)	Polarization
E0 000000	40.7	44.6	(dB)	40.0	
50.000000	10.7	14.6	29.3	40.0	H
216.000000	28.3	12.6	17.7	46.0	Н
232.000000	29.3	13.6	16.7	46.0	Н
296.000000	22.3	15.4	23.7	46.0	H
328.050000	15.4	16.3	30.6	46.0	Н
891,250000	23.2	26.4	22.8	46.0	Н

Sign-off Test Data



Appendix 1



Prüfbericht - Nr.:

Test Report No.

16034488 001

Seite 10 von 48

Page 10 of 48

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:

ION

Test Item: Identification:

Wireless speaker **iSPOF FREESOUND**

Test Standard:

FCC Part 15

Test Detail:

RE

Operation Mode: Climate Condition: Tx @ Low Channel

50 %RH;

Test Voltage/ Freq:

23 ℃; 50 AC120V / 60Hz

Receipt No: Report No:

173061380

16034488 001

Result: Comment: Pass

Test distance is 3m, Vertical

Subrange 1

Frequency Range:

30M-1GHz

Receiver:

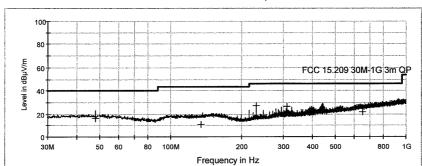
TUV ESCI 3

Transducer:

TUV SAC UVLB 9168/ TUV ESCI 3-TUV SAC UVLB 9168

101 kPa.

FCC 15.209 30M-1G sweep



Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)	Polarization
47.950000	16.1	14.6	23.9	40.0	V
135.000000	10.9	14.9	32.6	43.5	V
232.000000	27.2	13.6	18.8	46.0	V
312.050000	26.5	15.8	19.5	46.0	V
440.550000	22.8	19.1	23.2	46.0	٧
656.000000	21.7	23.3	24.3	46.0	V

Sign-off Test Data



Date: 8/11/2011 - Time: 5:01:26



Test Report No.

16034488 001

Seite 11 von 48

Page 11 of 48

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer: ION

Test Item: Wireless speaker Identification: iSPOF FREESOUND

Test Standard: FCC Part 15

Test Detail: RE

Operation Mode: Tx @ Middle Channel

Climate Condition: 23 °C; 50 %RH; 101 kPa. Test Voltage/ Freq: AC120V / 60Hz

 Test Voltage/ Freq:
 AC120V / 60H

 Receipt No:
 173061380

 Report No:
 16034488 001

 Result:
 Pass

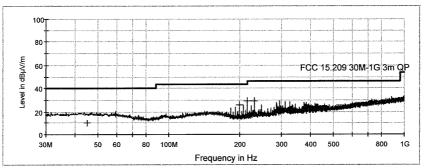
Comment: Test distance is 3m, Horizontal

Subrange 1

Frequency Range: 30M-1GHz Receiver: TUV ESCI 3

Transducer: TUV SAC UVLB 9168/ TUV ESCI 3-TUV SAC UVLB 9168

FCC 15.209 30M-1G sweep



Limit and Margin QP

Date: 8/11/2011 - Time: 5:36:53

Frequency (MHz)	QuasiPeak (dBµV/m)	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)	Polarization
45.150000	10.3	14.7	29.7	40.0	H
200.000000	25.9	12.1	17.6	43.5	Н
216.000000	28.9	12.6	17.1	46.0	Н
232.000000	29.0	13.6	17.0	46.0	Н
296.000000	21.9	15.4	24.1	46.0	H
384.050000	21.2	17.6	24.8	46.0	Н

Sign-off Test Data



Appendix 1



Prüfbericht - Nr.:

16034488 001

Seite 12 von 48

Page 12 of 48

Test Report No.

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

101 kPa.

EMC Test Record (Emission)

Common Information

Manufacturer: ION

Test Item: Wireless speaker Identification: iSPOF FREESOUND

Test Standard: FCC Part 15

Test Detail: RE

Operation Mode: Tx @ Middle Channel

Climate Condition: 23 °C; 50 %RH; Test Voltage/ Freq: AC120V / 60Hz

Receipt No: 173061380
Report No: 16034488 001
Result: Pass

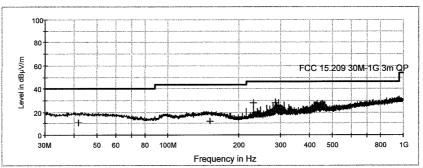
Comment: Test distance is 3m, Vertical

Subrange 1

Frequency Range: 30M-1GHz Receiver: TUV ESCI 3

Transducer: TUV SAC UVLB 9168/ TUV ESCI 3-TUV SAC UVLB 9168

FCC 15.209 30M-1G sweep



Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)	Polarization
41.900000	11.2	14.9	28.8	40.0	٧
151.750000	12.1	16.1	31.4	43.5	٧
232.000000	27.7	13.6	18.3	46.0	٧
288.000000	27.8	15.2	18.2	46.0	V
296.000000	25.2	15.4	20.8	46.0	٧
442.500000	23.0	19.1	23.0	46.0	٧

Sign-off Test Data



Date: 8/11/2011 - Time: 5:33:25



16034488 001

Seite 13 von 48

Page 13 of 48

Test Report No.

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

101 kPa.

EMC Test Record (Emission)

Common Information

Manufacturer: ION

Test Item: Wireless speaker Identification: **iSPOF FREESOUND** Test Standard: FCC Part 15

Test Detail:

RE

Tx @ High Channel Operation Mode: Climate Condition: 50 %RH;

23 ℃; 50 AC120V / 60Hz Test Voltage/ Freq: Receipt No: 173061380 Report No: 16034488 001

Result: **Pass**

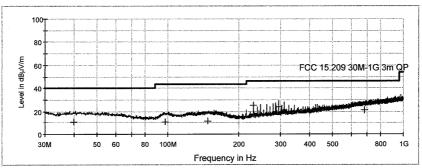
Comment: Test distance is 3m, Vertical

Subrange 1

30M-1GHz Frequency Range: Receiver: **TUV ESCI 3**

Transducer: TUV SAC UVLB 9168/ TUV ESCI 3-TUV SAC UVLB 9168





Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)	Polarization
39.800000	11.2	15.0	28.8	40.0	V
97.650000	11.1	11.5	32.4	43.5	٧
147.350000	11.6	15.8	31.9	43.5	٧
232.000000	24.9	13.6	21.1	46.0	٧
296.000000	24.1	15.4	21.9	46.0	٧
685.350000	20.8	23.7	25.2	46.0	٧

Sign-off Test Data



Date: 8/11/2011 - Time: 5:29:13



Test Report No.

16034488 001

Seite 14 von 48

Page 14 of 48

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

TUV Rheinland (Guangdong) Ltd.

Manufacturer:

ION

Test Item:

Wireless speaker

Identification: Test Standard:

iSPOF FREESOUND FCC Part 15

Test Detail:

RE

Operation Mode: Climate Condition: Tx @ High Channel

50 %RH;

Test Voltage/ Freq:

23 °C; 50 AC120V / 60Hz

173061380

Receipt No:

Report No:

16034488 001

Result:

Pass

Comment:

Test distance is 3m, Horizontal

Subrange 1

Frequency Range:

30M-1GHz

Receiver:

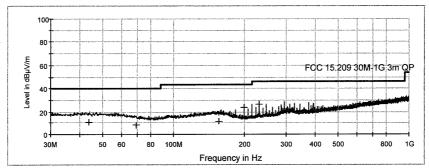
TUV ESCI 3

Transducer:

TUV SAC UVLB 9168/ TUV ESCI 3-TUV SAC UVLB 9168

101 kPa.





Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)	Polarization
43.600000	10.8	14.8	29.2	40.0	Н
69.650000	8.3	12.1	31.7	40.0	Н
156.450000	11.8	16.1	31.7	43.5	Н
200.000000	23.7	12.1	19.8	43.5	Н
232.000000	26.5	13.6	19.5	46.0	Н
296.000000	22.4	15.4	23.6	46.0	Н

Sign-off Test Data



Date: 8/11/2011 - Time: 5:25:55



Seite 15 von 48 Prüfbericht - Nr.: 16034488 001

Test Report No.

Page 15 of 48

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer: ION

Test Item: Wireless speaker Identification: **iSPOF FREESOUND** FCC Part 15

Test Standard: Test Detail:

RE

Tx @ Middle Channel Operation Mode:

23 ℃; 50 AC120V / 60Hz Climate Condition: 50 %RH; 101 kPa.

Test Voltage/ Freq: Receipt No: 173061380 Report No: 16034488 001 Result: Pass

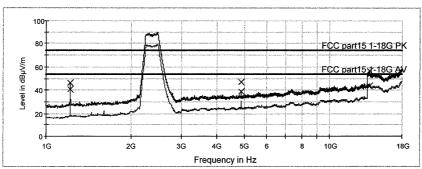
Comment: Test distance is 3m, Horizontal

Subrange 1

Frequency Range: 1GHz-18GHz Receiver: TUV FSP30

Transducer: TUV SAC HF906/ TUV FSP30-TUV SAC HF906

Pre TUV 1 to 18G HF906



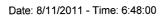
Limit and Margin PK

Frequency (MHz)	MaxPeak (dBμV/m)	Corr. (dB)	Margin - PK+ (dB)	Limit - PK+ (dBµV/m)	Polarization
1219.000000	46.2	-15.4	27.8	74.0	Н
4882.000000	47.1	-5.4	26.9	74.0	Н
13863.000000	56.7	10.1	17.3	74.0	Н

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Corr. (dB)	Margin - AVG (dB)	Limit - AVG (dBµV/m)	Polarization	The Control of the Control
1219.000000	40.7	-15.4	13.3	54.0	Н	
4882.000000	38.8	-5.4	15.2	54.0	Н	Ī
13863.000000	43.8	10.1	10.2	54.0	Н 🥊	-









16034488 001

Seite 16 von 48

Page 16 of 48

Test Report No.

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

101 kPa.

EMC Test Record (Emission)

Common Information

Manufacturer: ION

Test Item: Wireless speaker Identification: **ISPOF FREESOUND** Test Standard: FCC Part 15

Test Detail: RE

Tx @ Middle Channel Operation Mode: Climate Condition: 50 %RH;

23 ℃; 50 AC120V / 60Hz Test Voltage/ Freq: Receipt No: 173061380

Report No: 16034488 001 Result: **Pass**

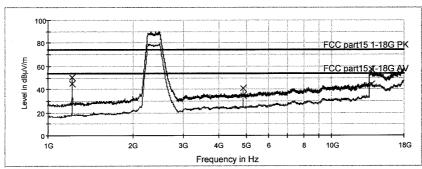
Comment: Test distance is 3m, Vertical

Subrange 1

Frequency Range: 1GHz-18GHz Receiver: TUV FSP30

Transducer: TUV SAC HF906/ TUV FSP30-TUV SAC HF906

Pre TUV 1 to 18G HF906



Limit and Margin PK

Frequency (MHz)	MaxPeak (dBµV/m)	Corr. (dB)	Margin - PK+ (dB)	Limit - PK+ (dBµV/m)	Polarization
1218.875000	50.4	-15.4	23.6	74.0	V
4880.250000	40.5	-5.4	33.5	74.0	V
13830.750000	56.9	10.2	17.1	74.0	V

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Corr. (dB)	Margin - AVG (dB)	Limit - AVG (dBµV/m)	Polarization
1218.875000	45.2	-15.4	8.8	54.0	٧
4880.250000	34.5	-5.4	19.5	54.0	٧
13830.750000	44.3	10.2	9.7	54.0	V



Date: 8/11/2011 - Time: 6:27:20







Test Report No.

16034488 001

Seite 17 von 48

Page 17 of 48

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

TUV Rheinland (Guangdong) Ltd.

Manufacturer:

Test Item:

Identification:

ISPOF FREESOUND FCC Part 15

ION

Test Standard: Test Detail:

RE

Operation Mode: Climate Condition: Tx @ High Channel 23 ℃; 50 AC120V / 60Hz 50 %RH;

101 kPa.

Test Voltage/ Freq: Receipt No:

173061380

Wireless speaker

Report No: 16034488 001

Result: Comment: Pass

Test distance is 3m, Vertical

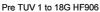
Subrange 1

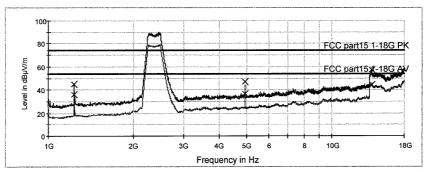
Frequency Range:

1GHz-18GHz **TUV FSP30**

Receiver: Transducer:

TUV SAC HF906/ TUV FSP30-TUV SAC HF906





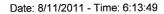
Limit and Margin PK

Frequency	MaxPeak	Corr.	Margin -	Limit - PK+	Polarization
(MHz)	(dBµV/m)	(dB)	PK+	(dBµV/m)	
			(dB)		
1236.000000	45.2	-15.2	28.8	74.0	V
4948.000000	47.2	-5.6	26.8	74.0	٧
13831.000000	57.4	10.2	16.6	74.0	٧

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Corr. (dB)	Margin - AVG (dB)	Limit - AVG (dBµV/m)	Polarization
1236.000000	36.1	-15.2	17.9	54.0	٧
4948.000000	36.9	-5.6	17.1	54.0	٧
13831.000000	44.3	10.2	9.7	54.0	V









16034488 001

Seite 18 von 48

Page 18 of 48

Test Report No.

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

101 kPa.

EMC Test Record (Emission)

Common Information

Manufacturer: ION

Test Item: Wireless speaker Identification: iSPOF FREESOUND Test Standard: FCC Part 15

Test Detail:

Operation Mode: Tx @ High Channel Climate Condition: Tx @ Fight Channel 23 $^{\circ}$ C; 50 %RH;

 Climate Condition:
 23 °C; 50

 Test Voltage/ Freq:
 AC120V / 60Hz

 Receipt No:
 173061380

 Report No:
 16034488 001

Result: Pass

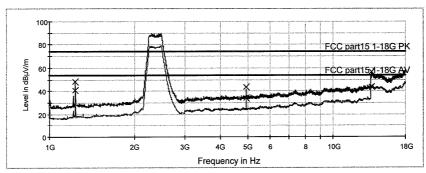
Comment: Test distance is 3m, Vertical

Subrange 1

Frequency Range: 1GHz-18GHz Receiver: TUV FSP30

Transducer: TUV SAC HF906/ TUV FSP30-TUV SAC HF906

Pre TUV 1 to 18G HF906



Limit and Margin PK

Frequency (MHz)	MaxPeak (dBμV/m)	Corr. (dB)	Margin - PK+ (dB)	Limit - PK+ (dBµV/m)	Polarization
1236.000000	48.2	-15.2	25.8	74.0	V
4948.000000	43.6	-5.6	30.4	74.0	٧
13716.000000	56.3	9.3	17.7	74.0	٧

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Corr. (dB)	Margin - AVG (dB)	Limit - AVG (dBµV/m)	Polarization	
1236.000000	41.1	-15.2	12.9	54.0	٧	
4948.000000	34.3	-5.6	19.7	54.0	V	The state of the s
13716.000000	43.4	9.3	10.6	54.0	V Brance	()



Date: 8/11/2011 - Time: 6:18:27



16034488 001

Seite 19 von 48

Page 19 of 48

Test Report No.

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:

ION

Test Item: Identification:

Wireless speaker **iSPOF FREESOUND**

Test Standard:

FCC Part 15

Test Detail:

RE

Operation Mode:

Tx @ Low Channel

Climate Condition:

23 °C; 50 %RH; AC120V / 60Hz

Test Voltage/ Freq:

Receipt No:

173061380

Report No:

16034488 001

Result:

Pass

Comment:

Test distance is 3m, Vertical

Subrange 1

Frequency Range:

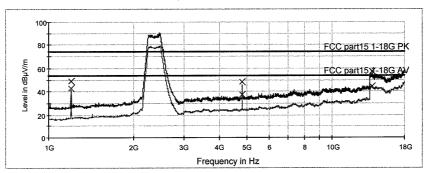
1GHz-18GHz TUV FSP30

Receiver: Transducer:

TUV SAC HF906/TUV FSP30-TUV SAC HF906

101 kPa.

Pre TUV 1 to 18G HF906



Limit and Margin PK

Frequency (MHz)	MaxPeak (dBµV/m)	Corr. (dB)	Margin - PK+ (dB)	Limit - PK+ (dBµV/m)	Polarization
1204.000000	48.9	-15.5	25.1	74.0	٧
4817.000000	48.6	-5.3	25.4	74.0	٧
13852.000000	57.0	10.3	17.0	74.0	٧

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Corr. (dB)	Margin - AVG (dB)	Limit - AVG (dBµV/m)	Polarization	
1204.000000	42.6	-15.5	11.4	54.0	V	
4817.000000	37.1	-5.3	16.9	54.0	V	
13852.000000	44.1	10.3	9.9	54.0	V	THE PERSON NAMED IN COLUMN TWO



Date: 8/11/2011 - Time: 6:07:34



Test Report No.

16034488 001

Seite 20 von 48

Page 20 of 48

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer: ION

Test Item: Identification: Wireless speaker iSPOF FREESOUND FCC Part 15

Test Standard: Test Detail:

RE

Operation Mode: Climate Condition:

Tx @ Low Channel 23 ℃; 50 %RH;

23 ℃; 50 AC120V / 60Hz

Test Voltage/ Freq: Receipt No:

173061380

Report No: Result: 16034488 001 Pass

Comment:

Test distance is 3m, Horizontal

Subrange 1

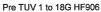
Frequency Range:

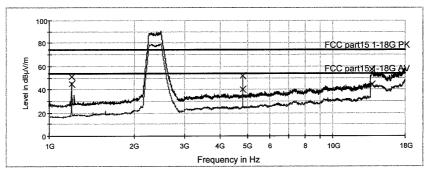
1GHz-18GHz TUV FSP30

Receiver: Transducer:

TUV SAC HF906/ TUV FSP30-TUV SAC HF906

101 kPa.





Limit and Margin PK

Frequency (MHz)	MaxPeak (dBμV/m)	Corr. (dB)	Margin - PK+ (dB)	Limit - PK+ (dBµV/m)	Polarization
1204.000000	51.2	-15.5	22.8	74.0	Н
4817.000000	51.5	-5.3	22.5	74.0	Н
13801.000000	56.9	9.9	17.1	74.0	Н

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Corr. (dB)	Margin - AVG (dB)	Limit - AVG (dBµV/m)	Polar	ization		
1204.000000	45.1	-15.5	8.9	54.0	Н			THE RESERVE AND ADDRESS OF THE PARTY OF THE
4817.000000	40.1	-5.3	13.9	54.0	Н		NAMES OF TAXABLE PARTY.	- L
13801.000000	44.0	9.9	10.0	54.0	Н			re Tact 1121



Date: 8/11/2011 - Time: 5:57:21



Test Report No.

16034488 001

Seite 21 von 48

Page 21 of 48

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

101 kPa.

EMC Test Record (Emission)

Common Information

Manufacturer: ION

Test Item: Wireless speaker Identification: iSPOF FREESOUND

Test Standard: FCC Part 15

Test Detail: RE

Operation Mode: Tx @ Middle Channel Climate Condition: $23 \ ^{\circ}C; 50 \ \%RH;$

 Climate Condition:
 23 °C; 50

 Test Voltage/ Freq:
 AC120V / 60Hz

 Receipt No:
 173061380

 Report No:
 16034488 001

Report No: 1603/ Result: Pass

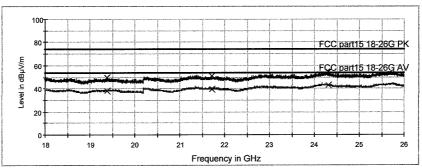
Comment: Test distance is 3m, Horizontal

Subrange 1

Frequency Range: 18GHz-26GHz Receiver: TUV 3160-09

Transducer: TUV SAC 3160-09/ TUV FSP30-TUV SAC 3160-09

Pre TUV 18 to 26.5 3160-09



Limit and Margin PK

Frequency (MHz)	MaxPeak (dBµV/m)	Corr. (dB)	Margin - PK+ (dB)	Limit - PK+ _(dBµV/m)_	Polarization
19383.000000	49.5	5.9	24.5	74.0	Н
21727.000000	51.0	6.7	23.0	74.0	Н
24308.000000	54.5	7.7	19.5	74.0	Н

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Corr. (dB)	Margin - AVG (dB)	Limit - AVG (dBµV/m)	Polariz	zation	
19383.000000	37.8	5.9	16.2	54.0	Н		
21727.000000	39.4	6.7	14.6	54.0	Н		The state of the s
24308.000000	42.6	7.7	11.4	54.0	Н	Name of Street, or other Designation of the last of th	. 100



Date: 8/11/2011 - Time: 8:19:07



Test Report No.

16034488 001

Seite 22 von 48

Page 22 of 48

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

TUV Rheinland (Guangdong) Ltd.

Manufacturer:

ION

Test Item:

Wireless speaker **iSPOF FREESOUND**

Identification: Test Standard:

FCC Part 15

Test Detail:

RE

Operation Mode:

Tx @ Middle Channel

Climate Condition:

50 %RH;

Test Voltage/ Freq:

23 ℃; 50 AC120V / 60Hz

Receipt No:

173061380

Report No:

16034488 001

Result: Comment: Pass

Test distance is 3m, Vertical

Subrange 1

Frequency Range:

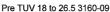
18GHz-26GHz

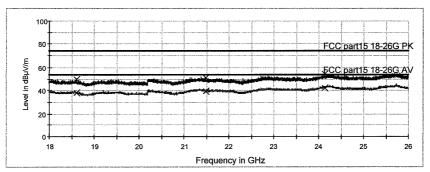
Receiver: TUV 3160-09

Transducer:

TUV SAC 3160-09/ TUV FSP30-TUV SAC 3160-09

101 kPa.





Limit and Margin PK

Lillin and	mai giii	1 13			
Frequency	MaxPeak	Corr.	Margin -	Limit - PK+	Polarization
(MHz)	(dBuV/m)	(dB)	PK+	(dBuV/m)	
(1811.12)	ζασμνιιίι	LVP)	(dB)	царини	
		ALC: A CARLOS	(45)		
18606.000000	49.9	5.6	24.1	74.0	V
21487.000000	51.3	6.6	22.7	74.0	٧
24132 000000	54.5	7.6	19.5	74 N	V

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Corr. (dB)	Margin - AVG (dB)	Limit - AVG (dBµV/m)	Polarization
18606.000000	37.9	5.6	16.1	54.0	V
21487.000000	39.2	6.6	14.8	54.0	V
24132.000000	42.4	7.6	11.6	54.0	V



Date: 8/11/2011 - Time: 8:16:24





Test Report No.

16034488 001

Seite 23 von 48

Page 23 of 48

EMC Test Service Hotline: +86-20-28391188

101 kPa.

EMC Test Record (Emission)

Common Information

TUV Rheinland (Guangdong) Ltd.

Manufacturer: ION

Test Item: Wireless speaker Identification: **iSPOF FREESOUND** Test Standard: FCC Part 15

Test Detail: RE

Tx @ High Channel Operation Mode: Climate Condition: 50 %RH;

23 ℃; 50 AC120V / 60Hz Test Voltage/ Freq: 173061380 Receipt No: Report No: 16034488 001

Result: Pass

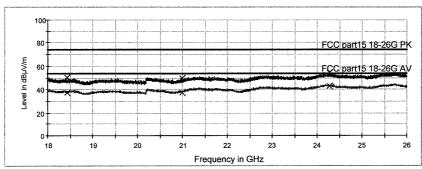
Comment: Test distance is 3m, Vertical

Subrange 1

Frequency Range: 18GHz-26GHz Receiver: TUV 3160-09

Transducer: TUV SAC 3160-09/ TUV FSP30-TUV SAC 3160-09

Pre TUV 18 to 26.5 3160-09



Limit and Margin PK

Frequency (MHz)	MaxPeak (dBµV/m)	Corr. (dB)	Margin - PK+ (dB)	Limit - PK+ (dBµV/m)	Polarization
18445.000000	50.0	5.5	24.0	74.0	V
21000.000000	49.6	6.5	24.4	74.0	٧
24288.000000	54.2	7.6	19.8	74.0	٧

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Corr. (dB)	Margin - AVG (dB)	Limit - AVG (dBµV/m)	Polariz	ation
18445.000000	37.5	5.5	16.5	54.0	٧	The state of the s
21000.000000	37.7	6.5	16.3	54.0	٧	The state of the s
24288.000000	42.5	7.6	11.5	54.0	V	"Toot Date
24200.000000	72.0			U		Sign-off lest Date



Date: 8/11/2011 - Time: 8:13:27



Test Report No.

16034488 001

Seite 24 von 48

Page 24 of 48

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:

ION

Test Item:

Wireless speaker

Identification:

iSPOF FREESOUND FCC Part 15

Test Standard: Test Detail:

RE

Operation Mode:

Tx @ High Channel

Climate Condition:

23 ℃; 50 AC120V / 60Hz 50 %RH;

Test Voltage/ Freq:

Receipt No:

173061380

Report No:

16034488 001

Result:

Comment:

Pass Test distance is 3m, Horizontal

Subrange 1

Frequency Range:

18GHz-26GHz

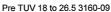
Receiver:

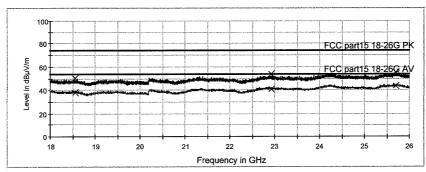
TUV 3160-09

Transducer:

TUV SAC 3160-09/ TUV FSP30-TUV SAC 3160-09

101 kPa.



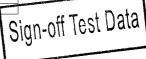


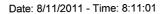
Limit and Margin PK

Frequency (MHz)	MaxPeak (dBµV/m)	Corr. (dB)	Margin - PK+ (dB)	Limit - PK+ (dBµV/m)	Polarization
18561.000000	50.1	5.5	23.9	74.0	Н
22927.000000	53.7	7.1	20.3	74.0	Н
25709.000000	54.9	8.5	19.1	74.0	Н

Limit and Margin AV

Lilling and	i iviai giii	171			
Frequency (MHz)	Average (dBµV/m)	Corr. (dB)	Margin - AVG (dB)	Limit - AVG (dBµV/m)	Polarization
18561.000000	38.0	5.5	16.0	54.0	H
22927.000000	40.9	7.1	13.1	54.0	Н
25709.000000	43.3	8.5	10.7	54.0	H









Test Report No.

16034488 001

Seite 25 von 48

Page 25 of 48

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:

ION

Test Item:

Wireless speaker

Identification:

iSPOF FREESOUND FCC Part 15

Test Standard: Test Detail:

RE

Operation Mode:

Tx @ Low Channel

Climate Condition:

23 ℃; 50 AC120V / 60Hz 50 %RH;

Test Voltage/ Freq: Receipt No:

173061380

Report No:

16034488 001

Result:

Pass

Comment:

Test distance is 3m, Horizontal

Subrange 1

Frequency Range:

18GHz-26GHz

Receiver:

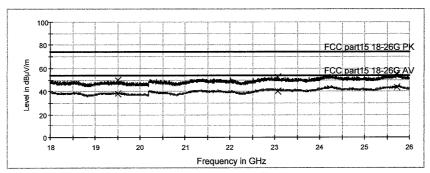
TUV 3160-09

Transducer:

TUV SAC 3160-09/ TUV FSP30-TUV SAC 3160-09

101 kPa.

Pre TUV 18 to 26.5 3160-09

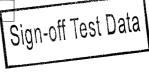


Limit and Margin PK

Frequency (MHz)	MaxPeak (dBµV/m)	Corr. (dB)	Margin - PK+ (dB)	Limit - PK+ (dBµV/m)	Polarization
19515.000000	49.3	5.9	24.7	74.0	Н
23073.000000	52.3	7.2	21.7	74.0	H
25714.000000	55.0	8.5	19.0	74.0	Н

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Corr. (dB)	Margin - l AVG (dB)	imit - AVG (dBµV/m)	Polarization
19515.000000	38.0	5.9	16.0	54.0	Н
23073.000000	40.3	7.2	13.7	54.0	H
25714.000000	43.3	8.5	10.7	54.0	H (



Date: 8/11/2011 - Time: 8:07:59





Test Report No.

16034488 001

Seite 26 von 48

Page 26 of 48

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer: ION

Test Item: Wireless speaker Identification: iSPOF FREESOUND Test Standard: FCC Part 15

Test Detail: RE

Operation Mode: Tx @ Low Channel

Climate Condition: 23 °C; 50 %RH; 101 kPa. Test Voltage/ Freq: AC120V / 60Hz

 Test Voltage/ Freq:
 AC120V / 60H:

 Receipt No:
 173061380

 Report No:
 16034488 001

 Result:
 Pass

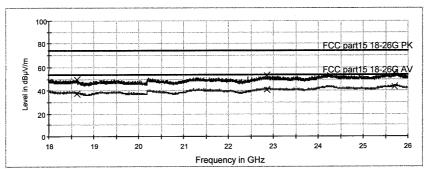
Comment: Test distance is 3m, Vertical

Subrange 1

Frequency Range: 18GHz-26GHz Receiver: TUV 3160-09

Transducer: TUV SAC 3160-09/ TUV FSP30-TUV SAC 3160-09

Pre TUV 18 to 26.5 3160-09



Limit and Margin PK

Frequency (MHz)	MaxPeak (dBµV/m)	Corr. (dB)	Margin - PK+ (dB)	Limit - PK+ (dBµV/m)	Polarization
18635.000000	49.4	5.6	24.6	74.0	V
22858.000000	52.8	7.1	21.2	74.0	V
25705.000000	55.0	8.5	19.0	74.0	V

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Corr. (dB)	Margin - AVG (dB)	Limit - AVG (dBµV/m)	Pola	irization	
18635.000000	37.7	5.6	16.3	54.0	٧	12 521	THE RESERVE AND ADDRESS OF THE PARTY OF THE
22858.000000	40.8	7.1	13.2	54.0	V		
25705.000000	43.4	8.5	10.6	54.0	V	101	" off Toct 115



Date: 8/11/2011 - Time: 8:04:11

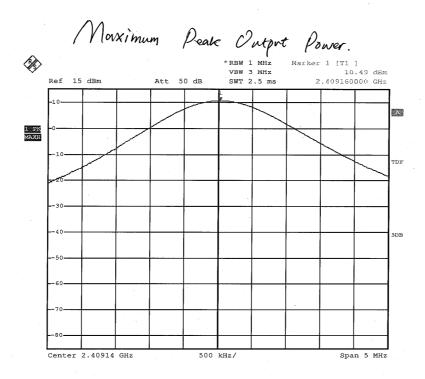


Test Report No.

16034488 001

Seite 27 von 48

Page 27 of 48



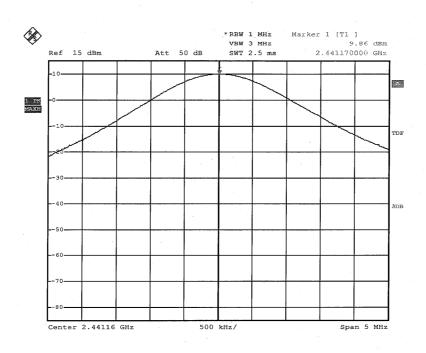
Date: 10.AUG.2011 08:20:48



Test Report No.

16034488 001

Seite 28 von 48Page 28 of 48



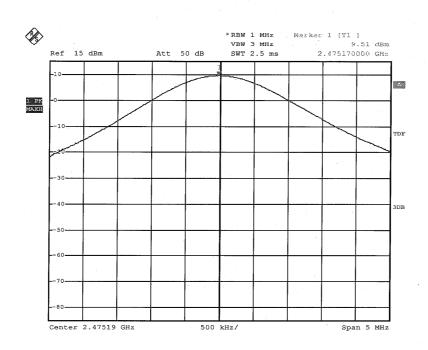
Date: 10.AUG.2011 08:21:47



16034488 001

Seite 29 von 48Page 29 of 48

Test Report No.



Date: 10.AUG.2011 08:23:12

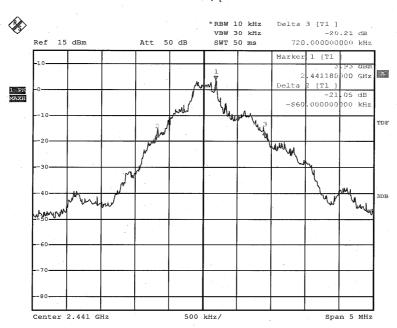


Test Report No.

16034488 001

Seite 30 von 48Page 30 of 48

20dB Bandwidth.

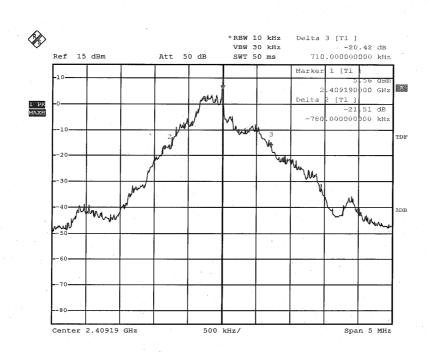


Date: 10.AUG.2011 08:35:13



16034488 001 Test Report No.

Seite 31 von 48 Page 31 of 48



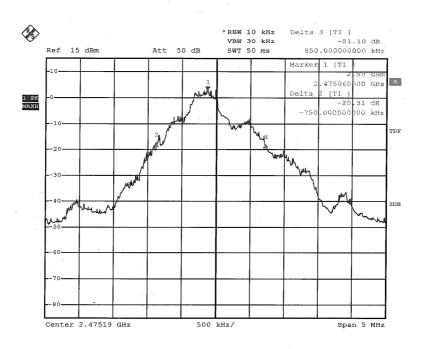
Date: 10.AUG.2011 08:36:31



Test Report No.

16034488 001

Seite 32 von 48Page 32 of 48



Date: 10.AUG.2011 08:33:52

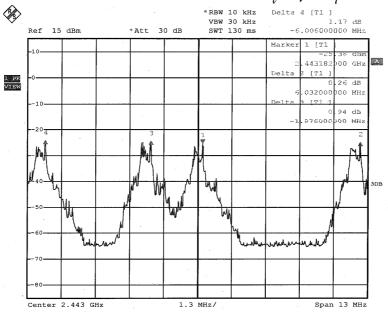


Test Report No.

16034488 001

Seite 33 von 48 *Page 33 of 48*





Date: 10.AUG.2011 09:31:21

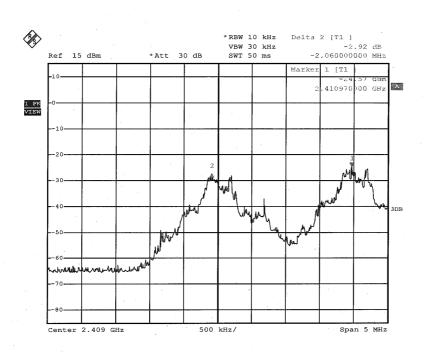


Test Report No.

• • • •

16034488 001

Seite 34 von 48Page 34 of 48



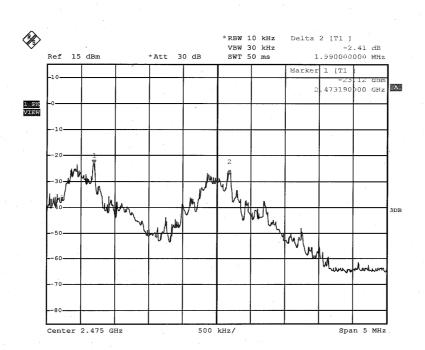
Date: 10.AUG.2011 09:20:06



16034488 001

Seite 35 von 48Page 35 of 48

Test Report No.



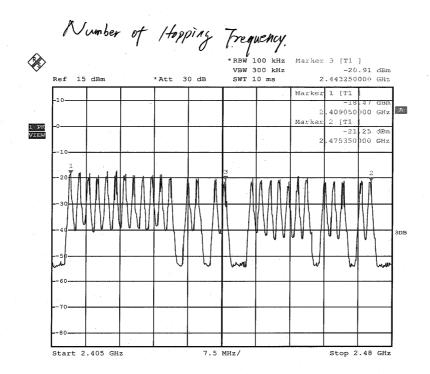
Date: 10.AUG.2011 09:22:30



Test Report No.

16034488 001

Seite 36 von 48Page 36 of 48



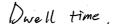
Date: 10.AUG.2011 09:15:11

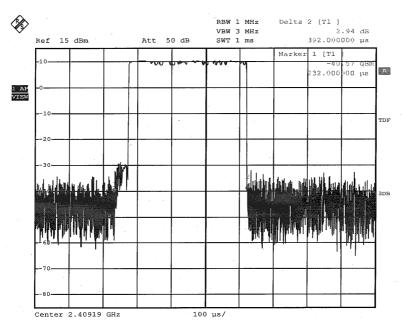


Test Report No.

16034488 001

Seite 37 von 48 *Page 37 of 48*





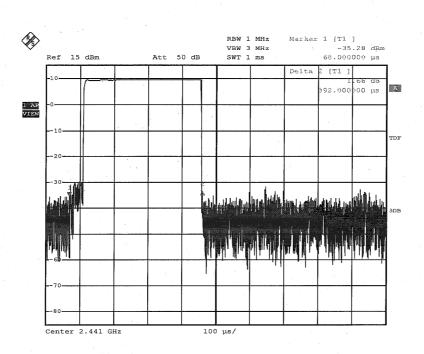
Date: 10.AUG.2011 08:39:04



Test Report No.

16034488 001

Seite 38 von 48 *Page 38 of 48*



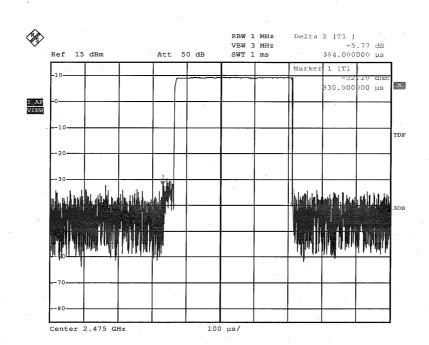
Date: 10.AUG.2011 08:40:04



Test Report No.

16034488 001

Seite 39 von 48Page 39 of 48



Date: 10.AUG.2011 08:41:48



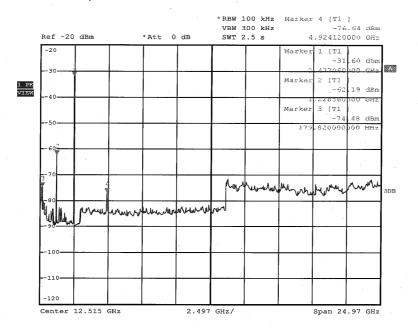
16034488 001

Seite 40 von 48

Page 40 of 48

Test Report No.

Out of band Emission.



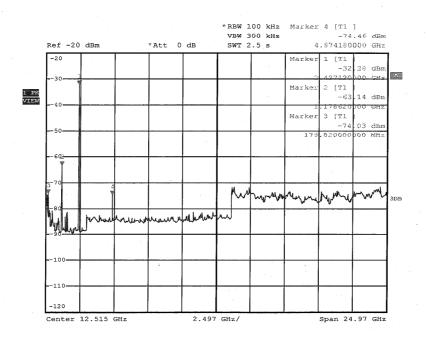
Date: 11.AUG.2011 09:54:07



Test Report No.

16034488 001

Seite 41 von 48Page 41 of 48



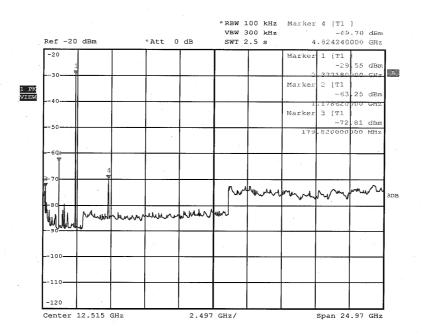
Date: 11.AUG.2011 09:54:49



16034488 001

Seite 42 von 48Page 42 of 48

Test Report No.



Date: 11.AUG.2011 09:53:17

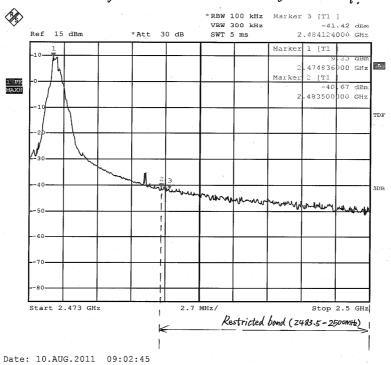


Test Report No.

16034488 001

Seite 43 von 48Page 43 of 48

Band Edges Emission in the Restricted band.

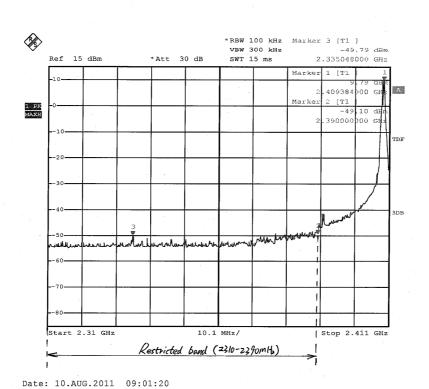




Test Report No.

16034488 001

Seite 44 von 48
Page 44 of 48





Test Report No.

16034488 001

Seite 45 von 48

Page 45 of 48

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:

ION

Test Item:

Wireless speaker iSPOF FREESOUND

Identification: Test Standard:

FCC Part 15

Test Detail:

Operation Mode: Climate Condition: Tx @ High Channel

Test Voltage/ Freq:

23 ℃; 50 AC120V / 60Hz 50 %RH;

Receipt No:

173061380

Report No:

16034488 001

Result:

Pass

Comment:

Test distance is 3m, Horizontal

Subrange 1

Frequency Range:

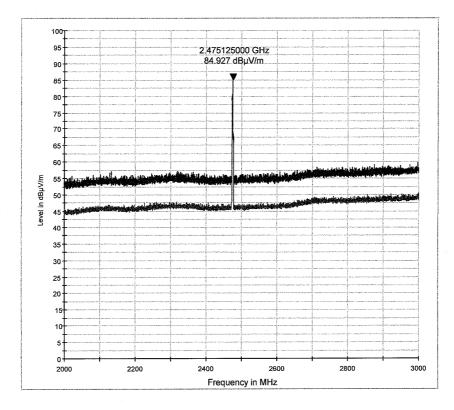
2GHz-3GHz **TUV FSP30**

Receiver: Transducer:

TUV SAC HF906/ TUV FSP30-TUV SAC HF906

101 kPa.

Pre TUV 1 to 18G HF906



2011 8 113 Reviewed by: Tested by:

Date: 8/11/2011 - Time: 7:06:56



Test Report No.

16034488 001

Seite 46 von 48

Page 46 of 48

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:

ION

Test Item: Identification: Wireless speaker **iSPOF FREESOUND**

Test Standard:

FCC Part 15

Test Detail:

RE

Operation Mode: Climate Condition: Tx @ High Channel

50 %RH;

Test Voltage/ Freq: Receipt No:

23 ℃; 50 AC120V / 60Hz

173061380

Report No:

16034488 001

Result:

Pass

Comment:

Test distance is 3m, Vertical

Subrange 1

Frequency Range:

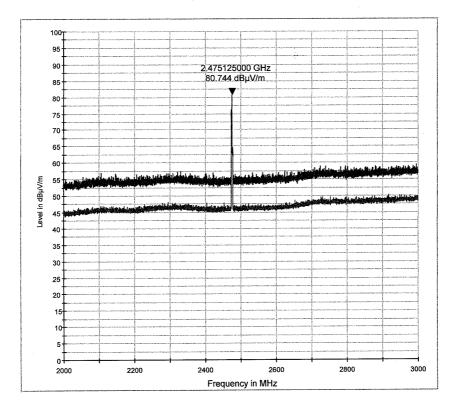
2GHz-3GHz **TUV FSP30**

Receiver: Transducer:

TUV SAC HF906/ TUV FSP30-TUV SAC HF906

101 kPa.

Pre TUV 1 to 18G HF906





Date: 8/11/2011 - Time: 7:09:15



Test Report No.

16034488 001

Seite 47 von 48

Page 47 of 48

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

101 kPa.

EMC Test Record (Emission)

Common Information

Manufacturer:

Test Item: Wireless speaker Identification: **iSPOF FREESOUND** FCC Part 15

Test Standard: Test Detail:

RE

Operation Mode: Climate Condition:

Tx @ Low Channel 23 ℃; 50 AC120V / 60Hz 50 %RH;

Test Voltage/ Freq: Receipt No: 173061380 Report No: 16034488 001 Pass

Result:

Comment: Test distance is 3m, Horizontal

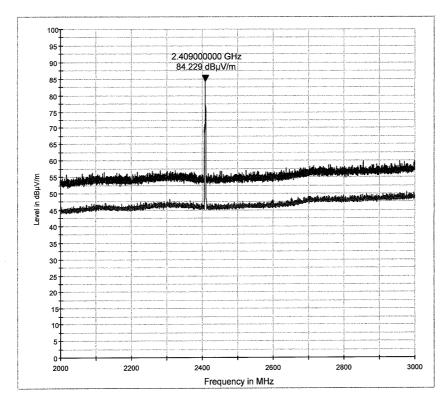
ION

Subrange 1

Frequency Range: 2GHz-3GHz Receiver: TUV FSP30

Transducer: TUV SAC HF906/TUV FSP30-TUV SAC HF906

Pre TUV 1 to 18G HF906





Reviewed by:



Test Report No.

16034488 001

Seite 48 von 48

Page 48 of 48

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

101 kPa.

EMC Test Record (Emission)

Common Information

Manufacturer: ION

Test Item: Wireless speaker Identification: iSPOF FREESOUND Test Standard: FCC Part 15

Test Detail: RE

 Test Voltage/ Freq:
 AC120V / 60H:

 Receipt No:
 173061380

 Report No:
 16034488 001

Result: Pass

Comment: Test distance is 3m, Vertical

Subrange 1

Frequency Range: 2GHz-3GHz Receiver: TUV FSP30

Transducer: TUV SAC HF906/ TUV FSP30-TUV SAC HF906

Pre TUV 1 to 18G HF906

