

Prüfbericht - Nr.:

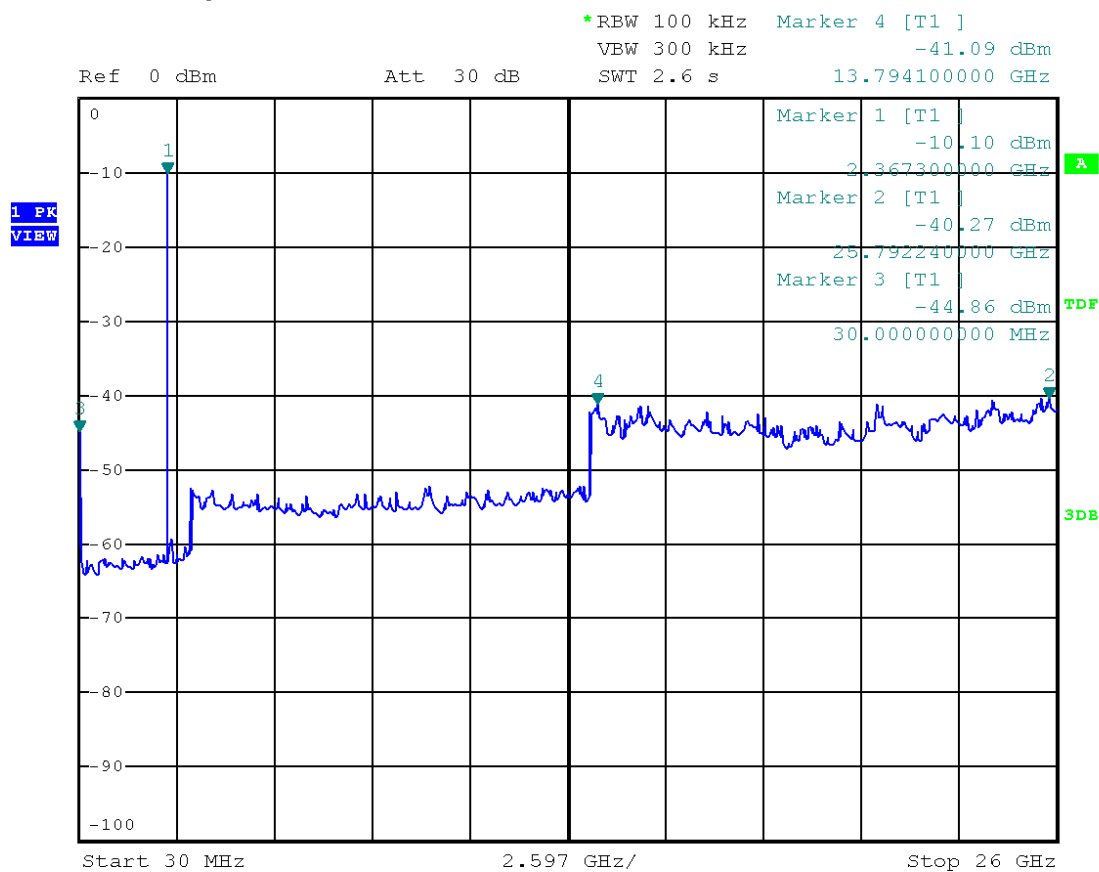
50141724 001

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Conducted Spurious Emissions –BLE-L Channel



down 3dB

Date: 11.JAN.2018 06:31:18

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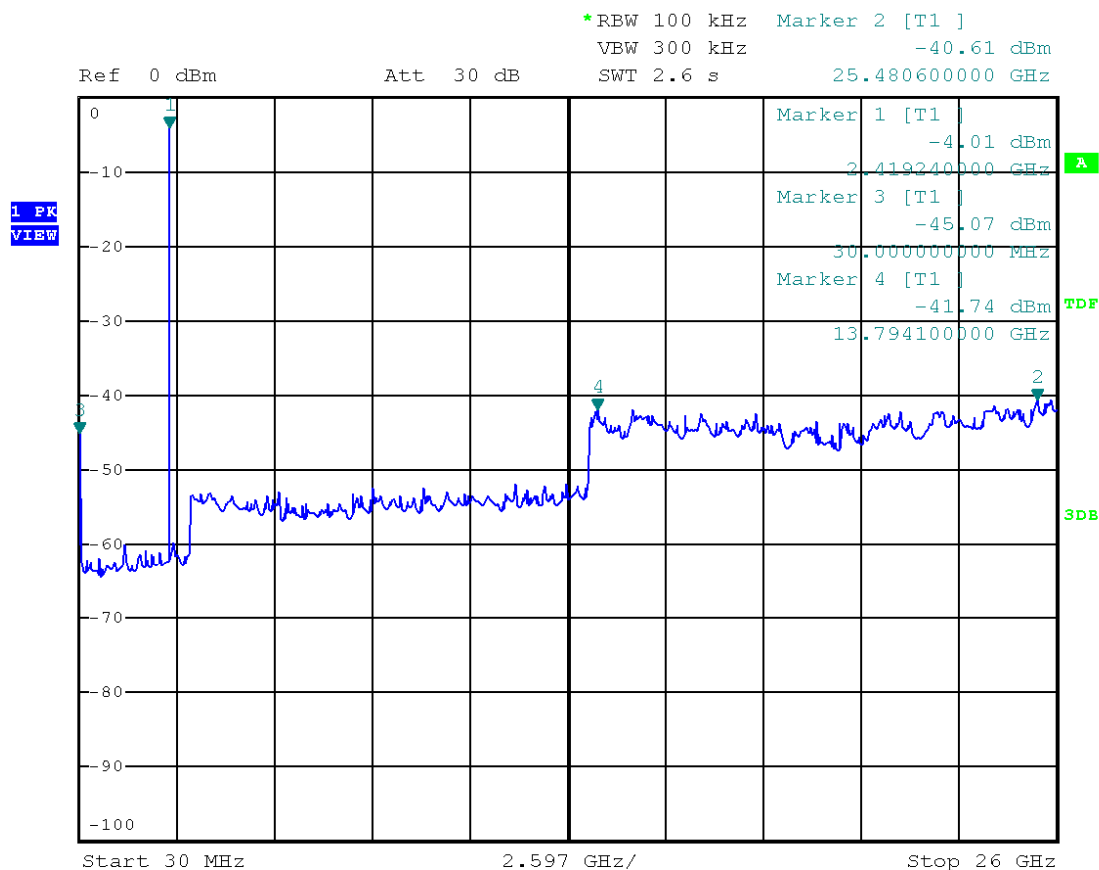
50141724 001

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Conducted Spurious Emissions –BLE-M Channel



down 3dB

Date: 11.JAN.2018 06:32:30

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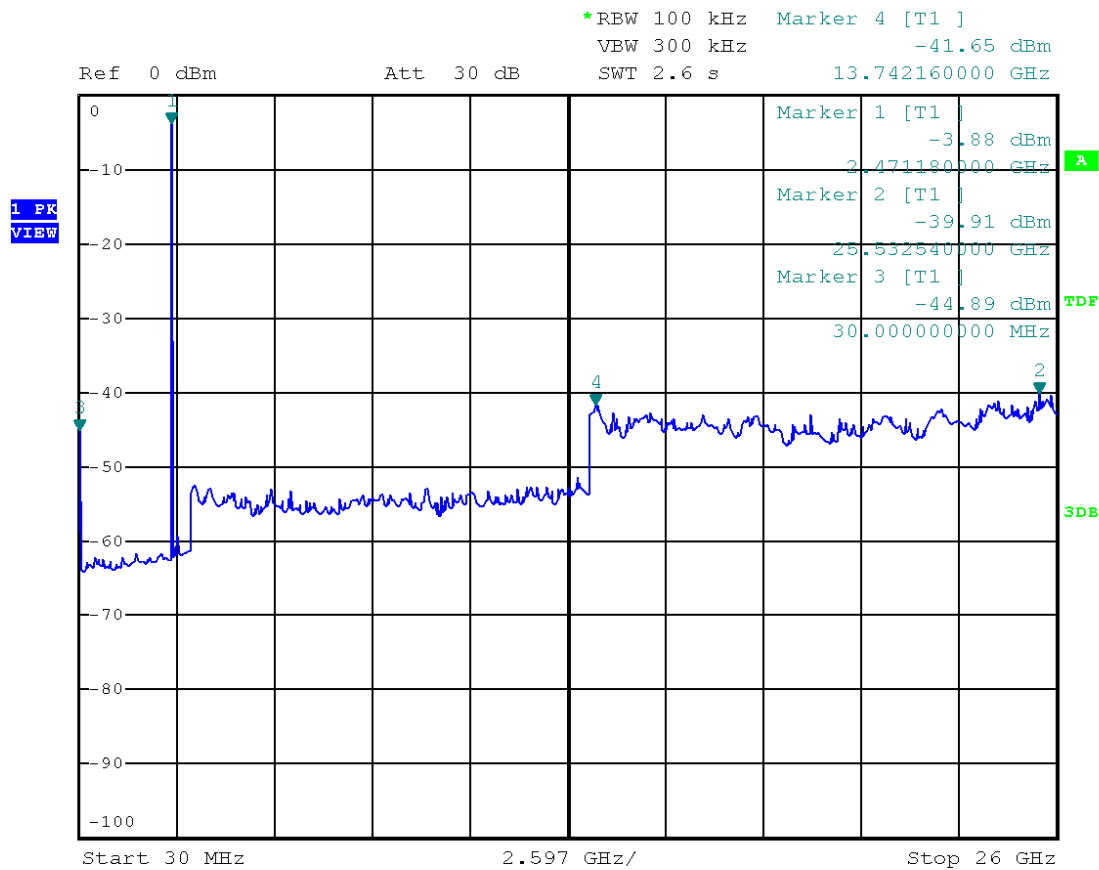
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Conducted Spurious Emissions –BLE-H Channel



down 3dB

Date: 11.JAN.2018 06:33:32

Band Edge-BLE-L CH

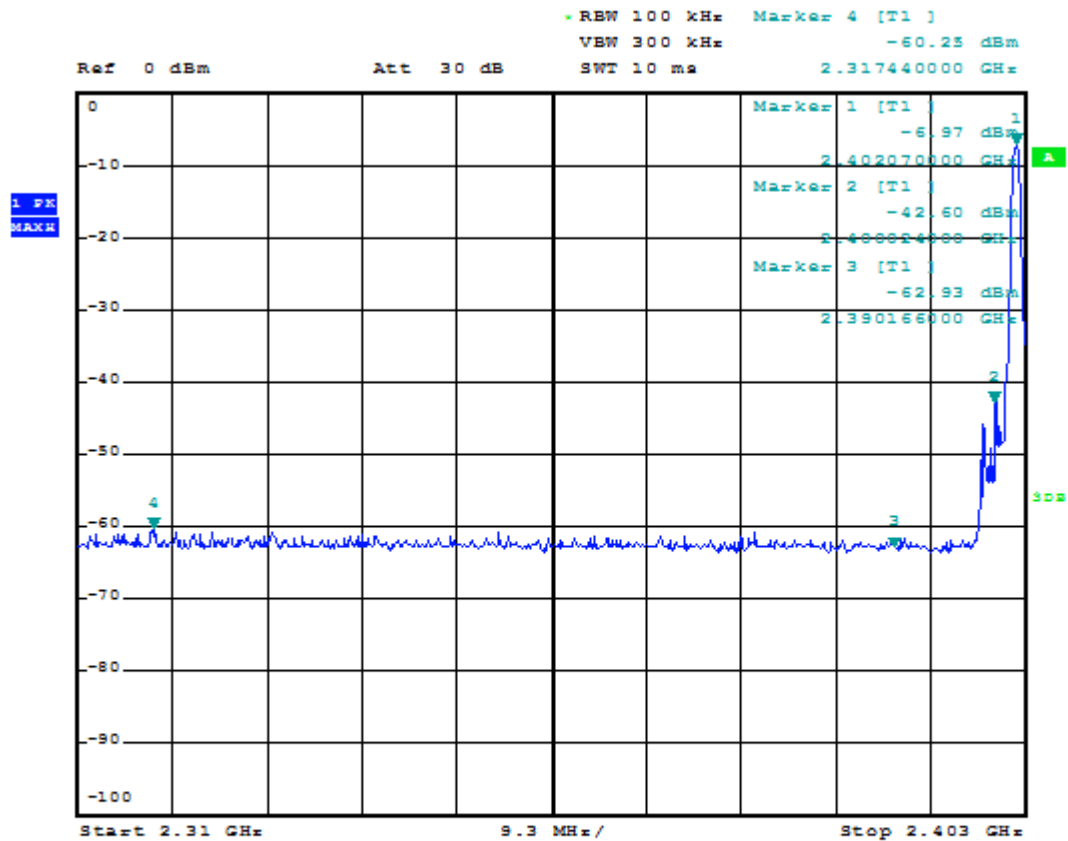
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Date: 3.APR.2018 13:37:21

Band Edge-BLE-H CH

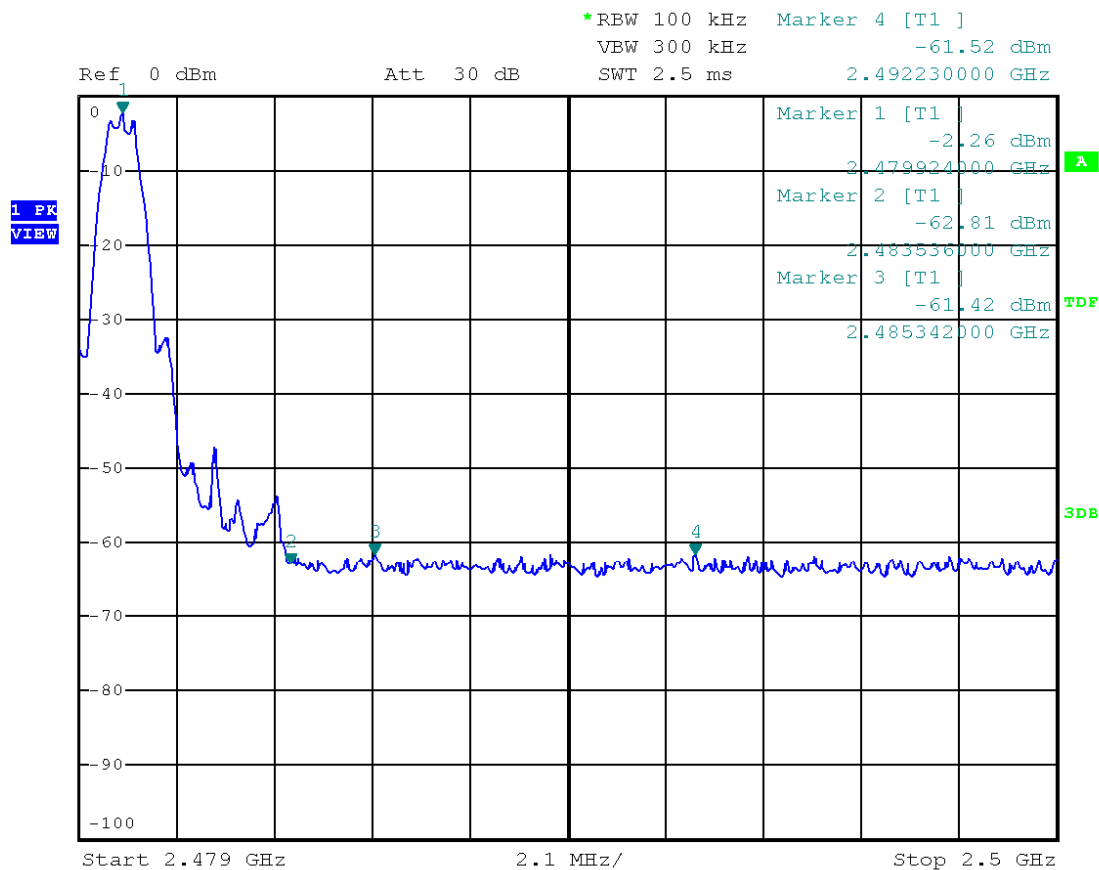
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down 3dB

Date: 11.JAN.2018 06:36:09

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Radiated Spurious Emissions

TUV Rheinland (Guangdong) Ltd.

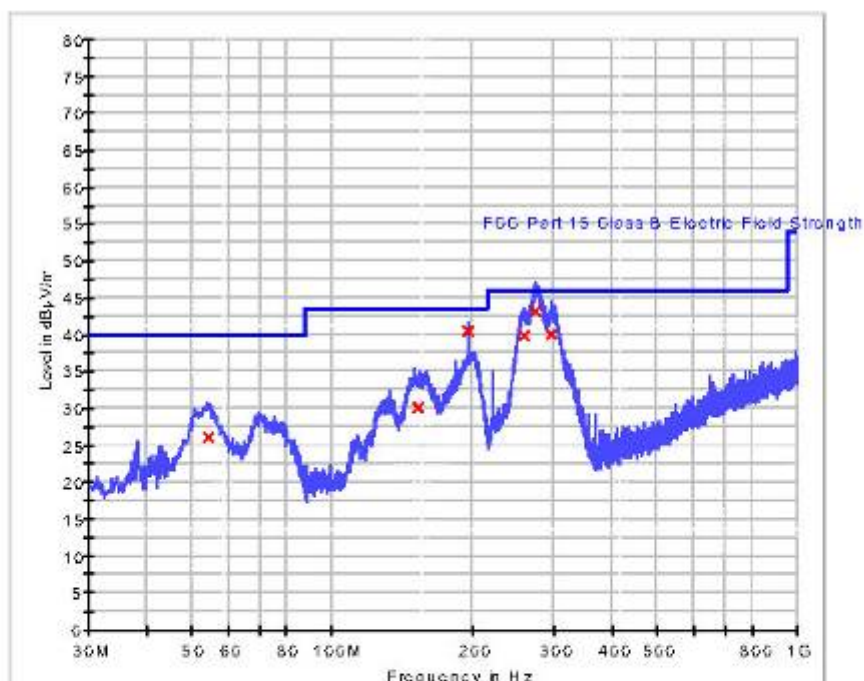
EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:	Seikaku
Test Item:	Mixer
Identification:	LD mixer 102A G3
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(BLE-High)
Climate Condition:	21 °C, 51 %, 100 kPa
Test Voltage/ Freq:	AC 120V / 60Hz
Receipt No:	174071875
Report No:	/
Result:	Pass
Comment:	Test distance is 3m, Horizontal

Subrange 1	
Frequency range:	30-1000MHz
Receiver:	ESCI 3
Transducer:	VULB9168



Tested by: *Jacky Chen* Reviewed by: _____
20180113

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TÜV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin QP

Frequency (MHz)	QuasiPeak (dB μ V/m)	Mess. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dB μ V/m)	Comment
54.240000	26.1	1000.0	120.000	H	20.4	13.9	40.0	
153.080000	30.1	1000.0	120.000	H	21.3	13.4	43.5	
195.650000	40.4	1000.0	120.000	H	18.2	3.1	43.5	
257.720000	40.0	1000.0	120.000	H	20.0	6.0	46.0	
273.720000	43.3	1000.0	120.000	H	20.9	2.7	45.0	
295.920000	40.2	1000.0	120.000	H	21.5	5.8	46.0	

Tested by:

Jacky Chen

Reviewed by: _____

20180113

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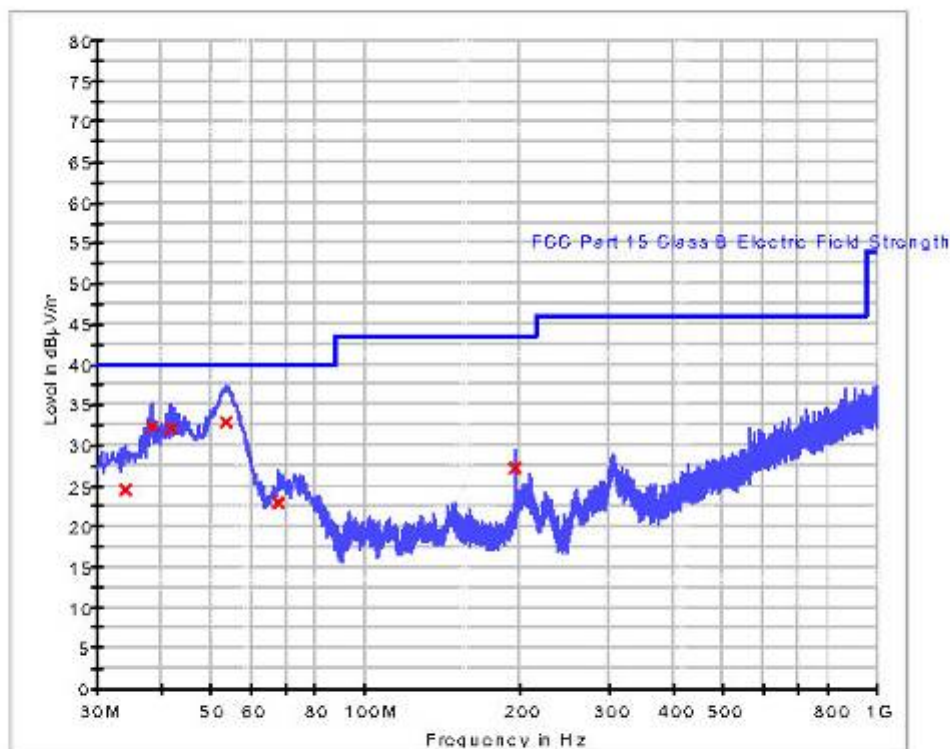
TÜV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:	Seikaku
Test Item:	Mixer
Identification:	LD mixer 102A G3
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(BLE-High)
Climate Condition:	21 °C, 51 %, 100 kPa
Test Voltage/ Freq:	AC 120V / 60Hz
Receipt No:	174071875
Report No:	/
Result:	Pass
Comment:	Test distance is 3m, Vertical
Subrange 1	
Frequency range:	30-1000MHz
Receiver:	ESCI 3
Transducer:	VULB9168



Tested by:

Jacky Chen
20180113

Reviewed by: _____

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TÜV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)	Comment
34.120000	24.6	1000.0	120.000	V	19.8	15.4	40.0	
38.360000	32.3	1000.0	120.000	V	20.5	7.7	40.0	
41.760000	32.0	1000.0	120.000	V	20.7	8.0	40.0	
53.640000	32.9	1000.0	120.000	V	20.5	7.1	40.0	
67.840000	23.0	1000.0	120.000	V	18.9	17.0	40.0	
196.600000	27.2	1000.0	120.000	V	18.2	15.3	43.5	

Tested by:

Jacky Chen

Reviewed by: _____

20180113

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TÜV Rheinland (Guangdong) Ltd.

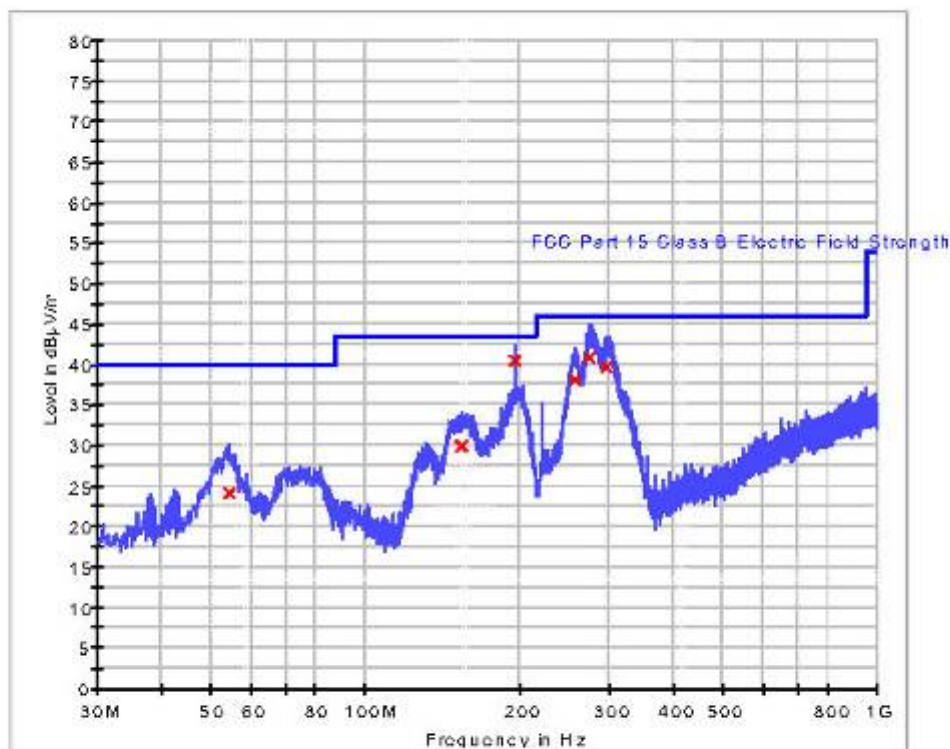
EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:	Seikaku
Test Item:	Mixer
Identification:	LD mixer 102A G3
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(BLE-Low)
Climate Condition:	21 °C, 51 %, 100 kPa
Test Voltage/ Freq:	AC 120V / 60Hz
Receipt No:	174071875
Report No:	/
Result:	Pass
Comment:	Test distance is 3m; Horizontal

Subrange 1	30-1000MHz
Frequency range:	ESCI 3
Receiver:	VULB9168
Transducer:	



Tested by:

Jacky Chen

Reviewed by: _____

20180113

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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)	Comment
54.240000	24.1	1000.0	120.000	H	20.4	15.9	40.0	
154.400000	30.0	1000.0	120.000	H	21.3	13.5	43.5	
196.600000	40.5	1000.0	120.000	H	18.2	3.0	43.5	
255.880000	38.1	1000.0	120.000	H	20.0	7.5	46.0	
274.440000	41.0	1000.0	120.000	H	20.9	5.0	46.0	
296.160000	39.7	1000.0	120.000	H	21.6	6.3	46.0	

Tested by: *Jacky Chen* Reviewed by: _____
20180113

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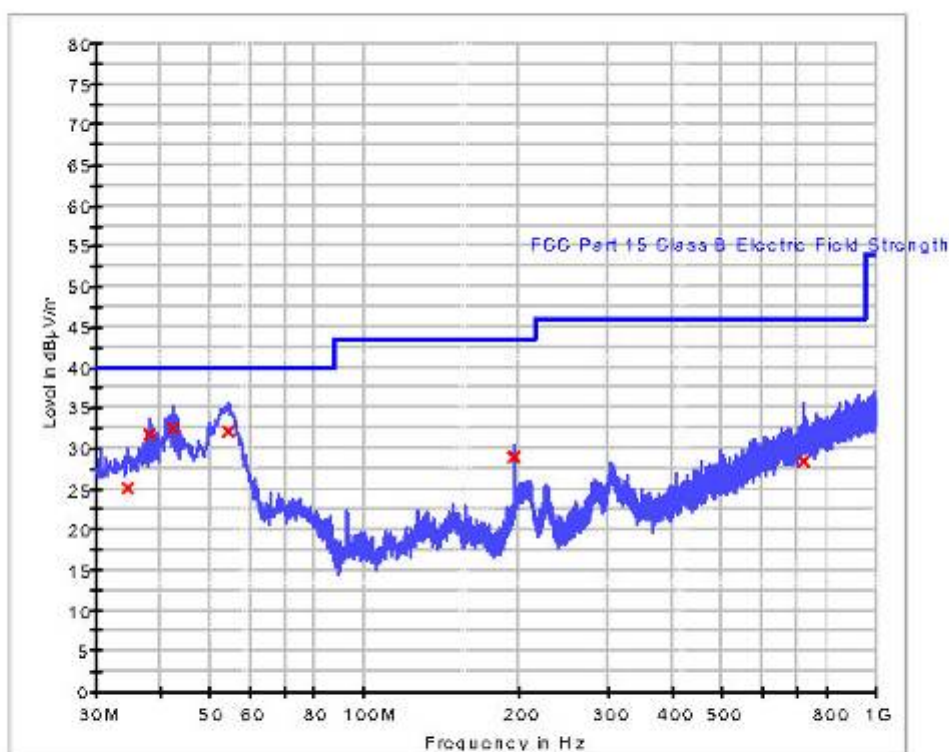
TÜV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:	Seikaku
Test Item:	Mixer
Identification:	LD mixer 102A G3
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(BLE-Low)
Climate Condition:	21 °C, 51 %, 100 kPa
Test Voltage/ Freq:	AC 120V / 60Hz
Receipt No:	174071875
Report No:	/
Result:	Pass
Comment:	Test distance is 3m, Vertical
Subrange 1	
Frequency range:	30-1000MHz
Receiver:	ESCI 3
Transducer:	VULB9168



Tested by:

Jacky Chen

Reviewed by: _____

20180113

Prüfbericht - Nr.:

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TÜV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)	Comment
34.480000	25.2	1000.0	120.000	V	19.8	14.8	40.0	
38.240000	31.8	1000.0	120.000	V	20.4	8.2	40.0	
42.480000	32.5	1000.0	120.000	V	20.7	7.5	40.0	
54.480000	32.2	1000.0	120.000	V	20.4	7.8	40.0	
196.600000	29.0	1000.0	120.000	V	18.2	14.5	43.5	
723.920000	28.4	1000.0	120.000	V	31.9	17.6	46.0	

Tested by:

Jacky Chen

Reviewed by: _____

20180113

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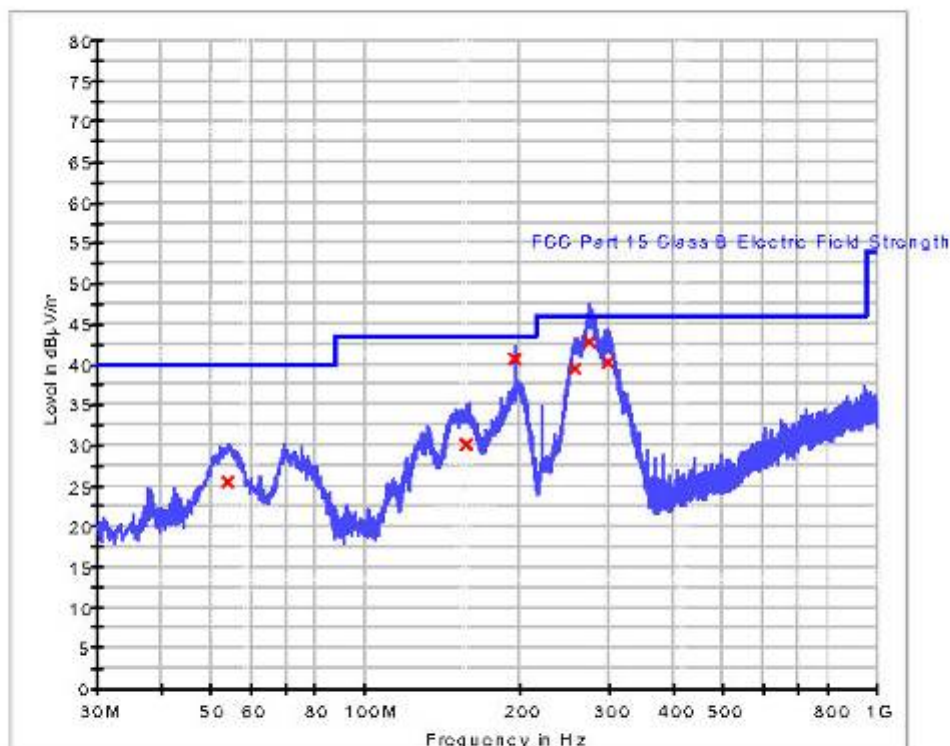
TÜV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:	Seikaku
Test Item:	Mixer
Identification:	LD mixer 102A G3
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting (BLE-Mid)
Climate Condition:	21 °C, 51 %, 100 kPa
Test Voltage/ Freq:	AC 120V / 60Hz
Receipt No:	174071875
Report No:	/
Result:	Pass
Comment:	Test distance is 3m; Horizontal
Subrange 1	
Frequency range:	30-1000MHz
Receiver:	ESCI 3
Transducer:	VULB9168



Tested by: Jacky Chen Reviewed by: _____
20180113

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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)	Comment
54.000000	25.5	1000.0	120.000	H	20.5	14.5	40.0	
157.200000	30.2	1000.0	120.000	H	21.3	13.3	43.5	
196.600000	40.6	1000.0	120.000	H	18.2	2.9	43.5	
257.120000	39.6	1000.0	120.000	H	20.0	6.4	46.0	
273.480000	42.9	1000.0	120.000	H	20.9	3.1	46.0	
273.480000	42.9	1000.0	120.000	H	20.9	3.1	46.0	
297.120000	40.3	1000.0	120.000	H	21.6	5.7	46.0	

Tested by:

Jacky Chen

Reviewed by: _____

20180113

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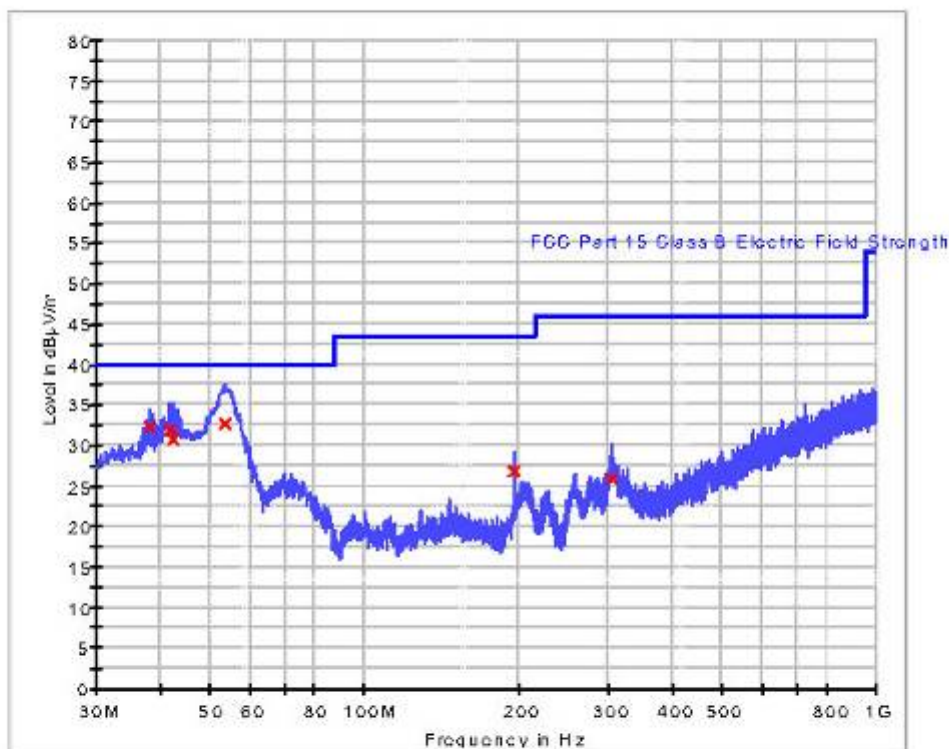
TÜV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:	Seikaku
Test Item:	Mixer
Identification:	LD mixer 102A G3
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(BLE-Mid)
Climate Condition:	21 °C, 51 %, 100 kPa
Test Voltage/ Freq:	AC 120V / 60Hz
Receipt No:	174071875
Report No:	/
Result:	Pass
Comment:	Test distance is 3m, Vertical
Subrange 1	
Frequency range:	30-1000MHz
Receiver:	ESCI 3
Transducer:	VULB9168



Tested by: Jacky Chen Reviewed by: _____
20180113

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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)	Comment
38.240000	32.2	1000.0	120.000	V	20.4	7.8	40.0	
41.760000	31.8	1000.0	120.000	V	20.7	8.2	40.0	
42.360000	30.7	1000.0	120.000	V	20.7	9.3	40.0	
53.520000	32.7	1000.0	120.000	V	20.5	7.3	40.0	
196.600000	26.9	1000.0	120.000	V	18.2	16.6	43.5	
303.280000	26.0	1000.0	120.000	V	21.8	20.0	46.0	

Tested by: Jacky Chen Reviewed by: _____
20180113

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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

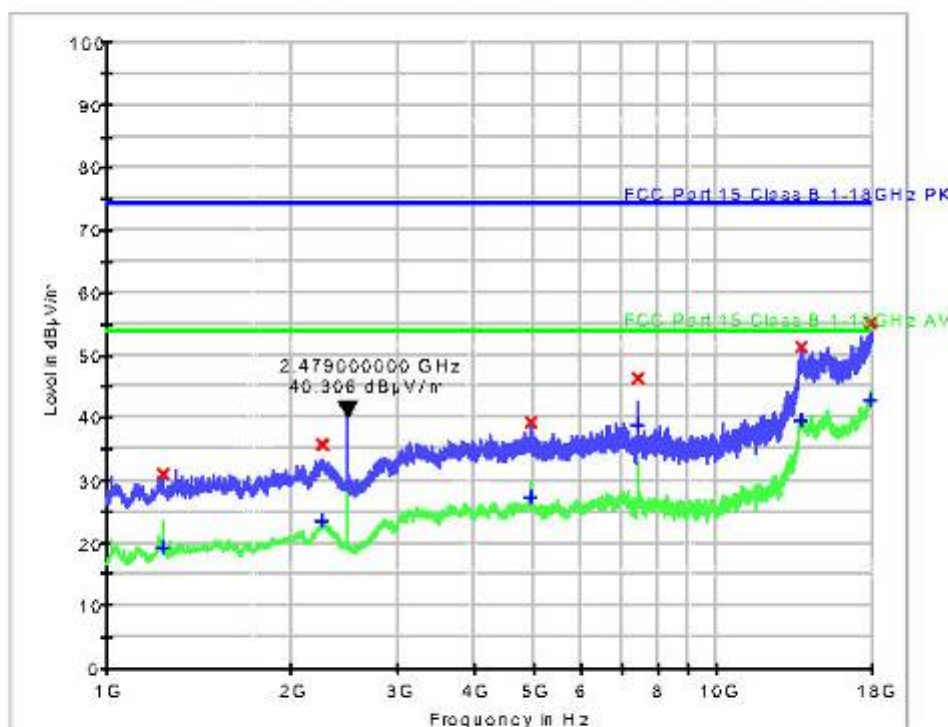
EMC Test Record (Emission)

Common Information

Manufacturer:	Seikaku
Test Item:	Mixer
Identification:	LD mixer 102A G3
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(BLE-High)
Climate Condition:	21 °C, 51 %, 100 kPa
Test Voltage/ Freq:	AC 120V / 60Hz
Receipt No:	174071875
Report No:	/
Result:	Pass
Comment:	Test distance is 3m; Horizontal

Subrange 1	
Frequency Range:	1GHz-18GHz
Receiver:	TUV FSP30
Transducer:	TUV SAC HF907/ TUV FSP30-TUV SAC HF907

EM CTT_EREFO11-A02-07_1GHz-18GHz_With PreAMP EXT& Notch filter



Tested by:

Jacky Chen

Reviewed by: _____

20180113

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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

Frequency (MHz)	MaxPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - PK+ (dB)	Limit - PK+ (dBμV/m)	Comment
1240.000000	31.0	1000.0	1000.000	H	-19.0	43.0	74.0	
2262.000000	35.9	1000.0	1000.000	H	-15.3	38.1	74.0	
4959.000000	39.2	1000.0	1000.000	H	-7.7	34.8	74.0	
7439.000000	46.3	1000.0	1000.000	H	-5.2	27.7	74.0	
13805.000000	51.3	1000.0	1000.000	H	3.6	22.7	74.0	
17866.000000	55.2	1000.0	1000.000	H	9.8	18.8	74.0	

Limit and Margin AV

Frequency (MHz)	Average (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - AV G (dB)	Limit - AV G (dBμV/m)	Comment
1240.000000	19.2	1000.0	1000.000	H	-19.0	34.8	54.0	
2262.000000	23.3	1000.0	1000.000	H	-15.3	30.7	54.0	
4959.000000	27.2	1000.0	1000.000	H	-7.7	26.8	54.0	
7439.000000	38.8	1000.0	1000.000	H	-5.2	15.2	54.0	
13805.000000	39.6	1000.0	1000.000	H	3.6	14.4	54.0	
17866.000000	42.8	1000.0	1000.000	H	9.8	11.2	54.0	

Tested by: *Jacky Chen* Reviewed by: _____
20180113

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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

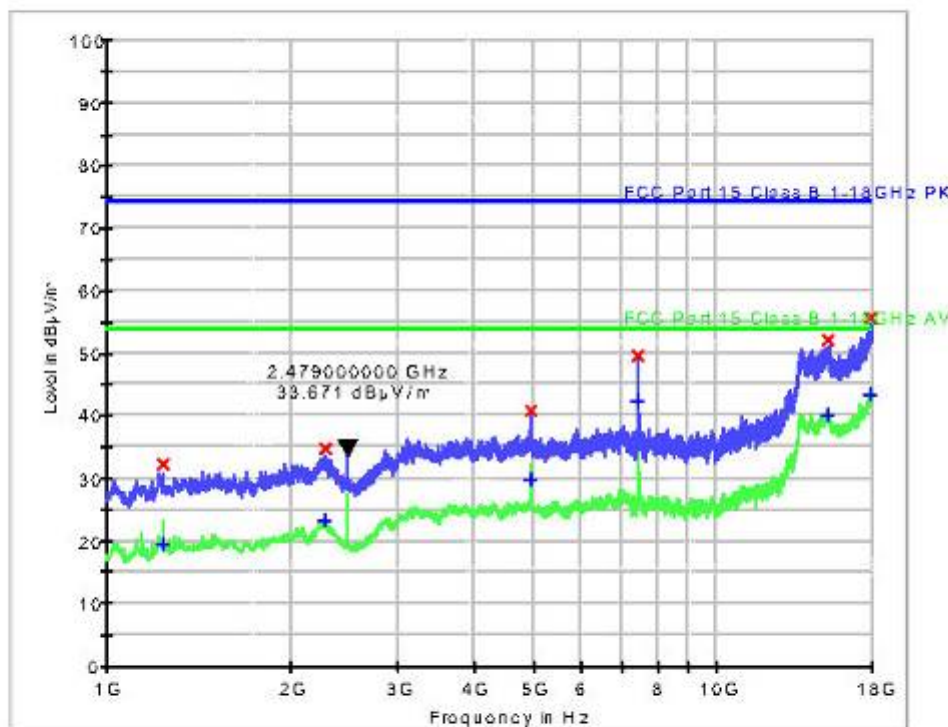
EMC Test Record (Emission)

Common Information

Manufacturer:	Seikaku
Test Item:	Mixer
Identification:	LD mixer 102A G3
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(BLE-High)
Climate Condition:	21 °C, 51 %, 100 kPa
Test Voltage/ Freq:	AC 120V / 60Hz
Receipt No:	174071875
Report No:	/
Result:	Pass
Comment:	Test distance is 3m, Vertical

Subrange 1	
Frequency Range:	1GHz-18GHz
Receiver:	TUV FSP30
Transducer:	TUV SAC HF907/ TUV FSP30-TUV SAC HF907

EM CTT_EREFO11-A02-07_1GHz-18GHz_With PreAMP EXT& Notch filter



Tested by:

Jacky Chen

Reviewed by: _____

20180113

Prüfbericht - Nr.:

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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

Frequency (MHz)	MaxPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - PK+ (dB)	Limit - PK+ (dBμV/m)	Comment
1240.000000	32.3	1000.0	1000.000	V	-19.0	41.7	74.0	
2279.000000	34.8	1000.0	1000.000	V	-15.3	39.2	74.0	
4961.000000	40.8	1000.0	1000.000	V	-7.7	33.2	74.0	
7441.000000	49.7	1000.0	1000.000	V	-5.2	24.3	74.0	
15244.000000	52.1	1000.0	1000.000	V	5.5	21.9	74.0	
17917.000000	55.8	1000.0	1000.000	V	10.2	18.2	74.0	

Limit and Margin AV

Frequency (MHz)	Average (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - AV G (dB)	Limit - AV G (dBμV/m)	Comment
1240.000000	19.4	1000.0	1000.000	V	-19.0	34.6	54.0	
2279.000000	23.1	1000.0	1000.000	V	-15.3	30.9	54.0	
4961.000000	29.7	1000.0	1000.000	V	-7.7	24.3	54.0	
7441.000000	42.4	1000.0	1000.000	V	-5.2	11.6	54.0	
15244.000000	39.9	1000.0	1000.000	V	5.5	14.1	54.0	
17917.000000	43.4	1000.0	1000.000	V	10.2	10.7	54.0	

Tested by:

Jacky Chen

Reviewed by: _____

20180113

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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

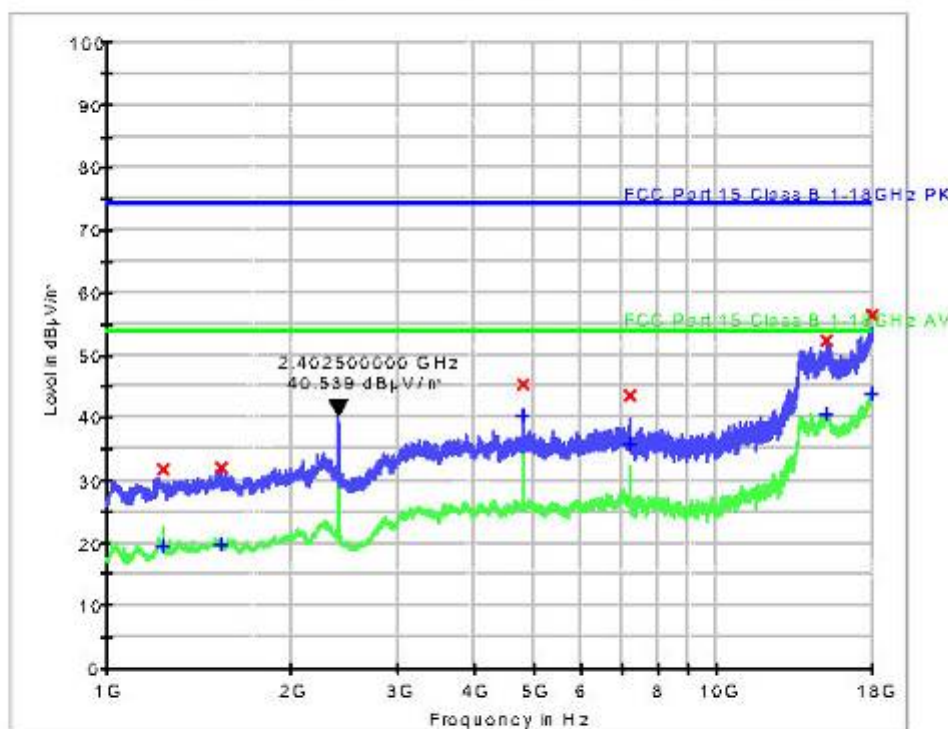
EMC Test Record (Emission)

Common Information

Manufacturer:	Seikaku
Test Item:	Mixer
Identification:	LD mixer 102A G3
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(BLE-Low)
Climate Condition:	21 °C, 51 %, 100 kPa
Test Voltage/ Freq:	AC 120V / 60Hz
Receipt No:	174071875
Report No:	/
Result:	Pass
Comment:	Test distance is 3m; Horizontal

Subrange 1	
Frequency Range:	1GHz-18GHz
Receiver:	TUV FSP30
Transducer:	TUV SAC HF907/ TUV FSP30-TUV SAC HF907

EM CTT_EREFO11-A02-07_1GHz-18GHz_With PreAMP EXT& Notch filter



Tested by:

Jacky Chen

Reviewed by: _____

20180113

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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

Frequency (MHz)	MaxPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - PK+ (dB)	Limit - PK+ (dBμV/m)	Comment
1240.000000	31.7	1000.0	1000.000	H	-19.0	42.3	74.0	
1544.000000	32.1	1000.0	1000.000	H	-17.7	41.9	74.0	
4804.000000	45.3	1000.0	1000.000	H	-7.8	28.7	74.0	
7205.000000	43.5	1000.0	1000.000	H	-4.8	30.5	74.0	
15150.000000	52.4	1000.0	1000.000	H	5.7	21.6	74.0	
17949.000000	56.3	1000.0	1000.000	H	10.4	17.7	74.0	

Limit and Margin AV

Frequency (MHz)	Average (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - AV/G (dB)	Limit - AV/G (dBμV/m)	Comment
1240.000000	19.3	1000.0	1000.000	H	-19.0	34.7	54.0	
1544.000000	19.8	1000.0	1000.000	H	-17.7	34.2	54.0	
4804.000000	40.3	1000.0	1000.000	H	-7.8	13.7	54.0	
7205.000000	35.7	1000.0	1000.000	H	-4.8	18.3	54.0	
15150.000000	40.6	1000.0	1000.000	H	5.7	13.4	54.0	
17949.000000	43.9	1000.0	1000.000	H	10.4	10.1	54.0	

Tested by: Jacky Chen Reviewed by: _____
20180113

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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

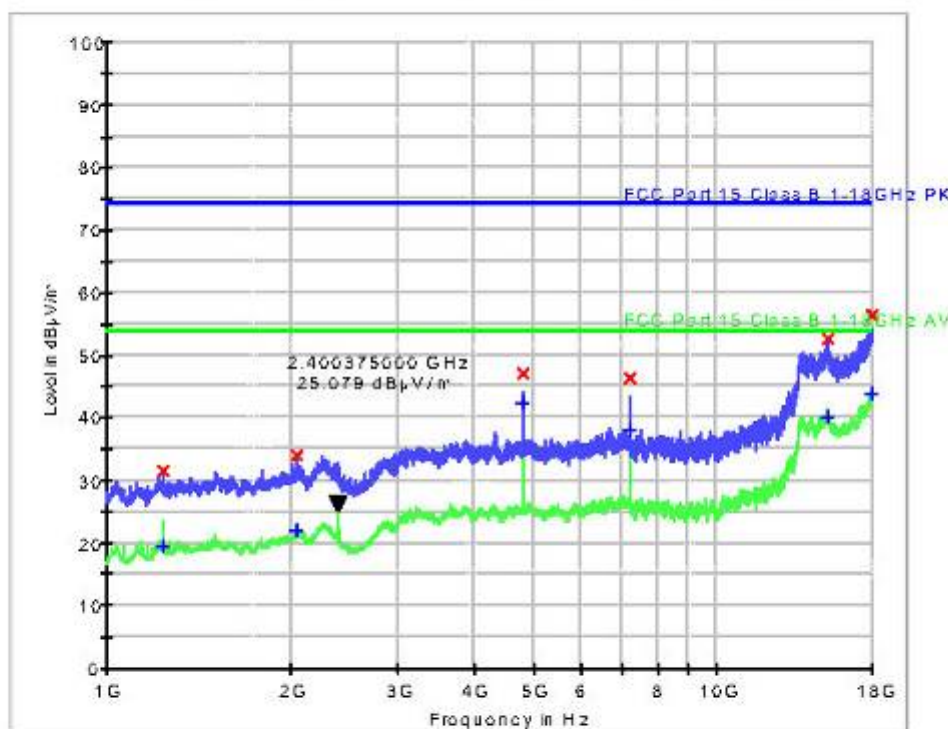
EMC Test Record (Emission)

Common Information

Manufacturer:	Seikaku
Test Item:	Mixer
Identification:	LD mixer 102A G3
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(BLE-Low)
Climate Condition:	21 °C, 51 %, 100 kPa
Test Voltage/ Freq:	AC 120V / 60Hz
Receipt No:	174071875
Report No:	/
Result:	Pass
Comment:	Test distance is 3m, Vertical

Subrange 1	
Frequency Range:	1GHz-18GHz
Receiver:	TUV FSP30
Transducer:	TUV SAC HF907/ TUV FSP30-TUV SAC HF907

EM CTT_EREFO11-A02-07_1GHz-18GHz_With PreAMP EXT& Notch filter



Tested by:

Jacky Chen

Reviewed by: _____

20180113

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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

Frequency (MHz)	MaxPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - PK+ (dB)	Limit - PK+ (dBμV/m)	Comment
1240.000000	31.5	1000.0	1000.000	V	-19.0	42.5	74.0	
2050.000000	34.0	1000.0	1000.000	V	-15.0	40.0	74.0	
4804.000000	47.0	1000.0	1000.000	V	-7.8	27.0	74.0	
7207.000000	46.2	1000.0	1000.000	V	-4.9	27.8	74.0	
15203.000000	52.6	1000.0	1000.000	V	5.6	21.4	74.0	
17964.000000	56.5	1000.0	1000.000	V	10.4	17.6	74.0	

Limit and Margin AV

Frequency (MHz)	Average (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - AV/G (dB)	Limit - AV/G (dBμV/m)	Comment
1240.000000	19.4	1000.0	1000.000	V	-19.0	34.6	54.0	
2050.000000	22.0	1000.0	1000.000	V	-15.0	32.0	54.0	
4804.000000	42.4	1000.0	1000.000	V	-7.8	11.6	54.0	
7207.000000	38.1	1000.0	1000.000	V	-4.9	15.9	54.0	
15203.000000	40.1	1000.0	1000.000	V	5.6	13.9	54.0	
17964.000000	43.7	1000.0	1000.000	V	10.4	10.3	54.0	

Tested by:

Jacky Chen

Reviewed by: _____

20180113

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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

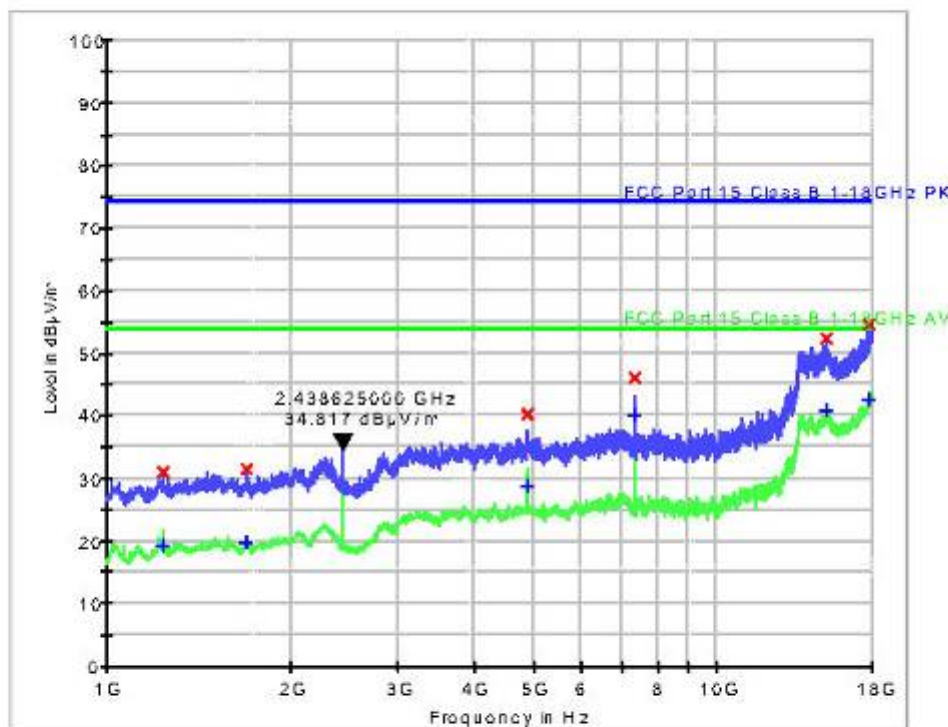
EMC Test Record (Emission)

Common Information

Manufacturer:	Seikaku
Test Item:	Mixer
Identification:	LD mixer 102A G3
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(BLE-Mid)
Climate Condition:	21 °C, 51 %, 100 kPa
Test Voltage/ Freq:	AC 120V / 60Hz
Receipt No:	174071875
Report No:	/
Result:	Pass
Comment:	Test distance is 3m; Horizontal

Subrange 1	
Frequency Range:	1GHz-18GHz
Receiver:	TUV FSP30
Transducer:	TUV SAC HF907/ TUV FSP30-TUV SAC HF907

EM CTT_EREFO11-A02-07_1GHz-18GHz_With PreAMP EXT& Notch filter



Tested by:

Jacky Chen

Reviewed by: _____

20180113

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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

Frequency (MHz)	MaxPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - PK+ (dB)	Limit - PK+ (dBμV/m)	Comment
1240.000000	30.9	1000.0	1000.000	H	-19.0	49.1	74.0	
1701.000000	31.4	1000.0	1000.000	H	-17.2	42.6	74.0	
4880.000000	40.4	1000.0	1000.000	H	-7.4	33.6	74.0	
7320.000000	46.2	1000.0	1000.000	H	-6.6	27.8	74.0	
15155.000000	52.4	1000.0	1000.000	H	5.7	21.6	74.0	
17781.000000	54.7	1000.0	1000.000	H	9.3	19.3	74.0	

Limit and Margin AV

Frequency (MHz)	Average (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - AV G (dB)	Limit - AV G (dBμV/m)	Comment
1240.000000	19.0	1000.0	1000.000	H	-19.0	35.0	54.0	
1701.000000	19.6	1000.0	1000.000	H	-17.2	34.5	54.0	
4880.000000	28.8	1000.0	1000.000	H	-7.4	26.2	54.0	
7320.000000	40.1	1000.0	1000.000	H	-6.6	14.0	54.0	
15155.000000	40.8	1000.0	1000.000	H	5.7	13.3	54.0	
17781.000000	42.5	1000.0	1000.000	H	9.3	11.5	54.0	

Tested by:

Jacky Chen

Reviewed by: _____

20180113

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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

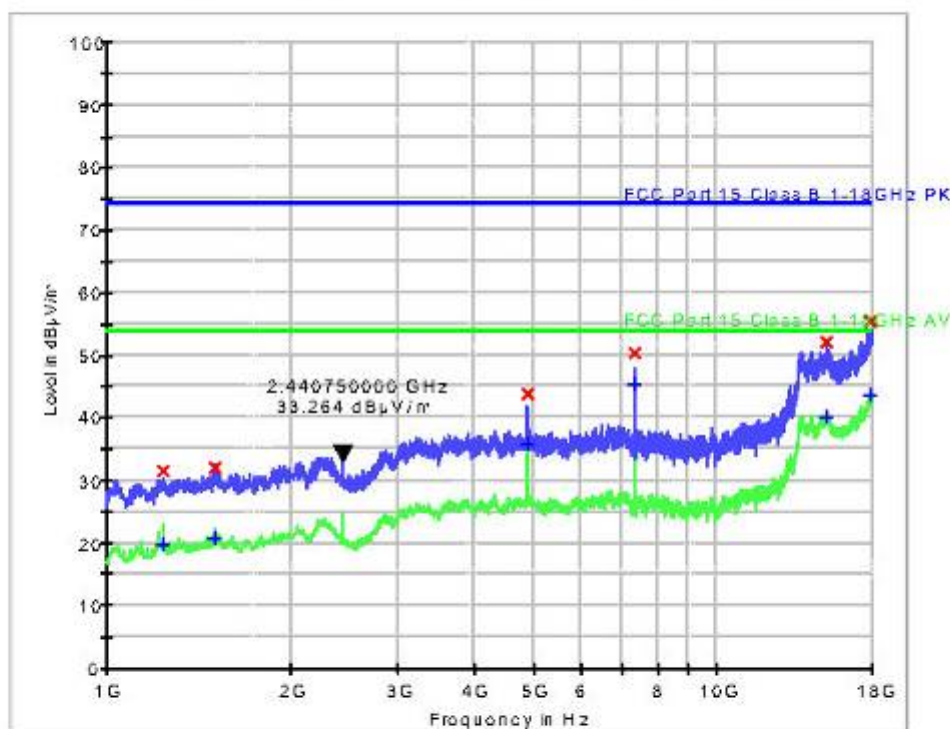
EMC Test Record (Emission)

Common Information

Manufacturer:	Seikaku
Test Item:	Mixer
Identification:	LD mixer 102A G3
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(BLE-Mid)
Climate Condition:	21 °C, 51 %, 100 kPa
Test Voltage/ Freq:	AC 120V / 60Hz
Receipt No:	174071875
Report No:	/
Result:	Pass
Comment:	Test distance is 3m, Vertical

Subrange 1	1GHz-18GHz
Frequency Range:	TUV FSP30
Receiver:	TUV SAC HF907/ TUV FSP30-TUV SAC HF907
Transducer:	

EM CTT_EREFO11-A02-07_1GHz-18GHz_With PreAMP EXT& Notch filter



Tested by: *Jacky Chen* Reviewed by: _____
20180113

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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

Frequency (MHz)	MaxPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - PK+ (dB)	Limit - PK+ (dBμV/m)	Comment
1240.000000	31.5	1000.0	1000.000	V	-19.0	42.5	74.0	
1510.000000	32.1	1000.0	1000.000	V	-18.0	41.9	74.0	
4880.000000	43.8	1000.0	1000.000	V	-7.4	30.2	74.0	
7320.000000	50.3	1000.0	1000.000	V	-5.6	23.7	74.0	
15108.000000	52.2	1000.0	1000.000	V	5.6	21.8	74.0	
17926.000000	55.5	1000.0	1000.000	V	10.2	18.5	74.0	

Limit and Margin AV

Frequency (MHz)	Average (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - AV G (dB)	Limit - AV G (dBμV/m)	Comment
1240.000000	19.5	1000.0	1000.000	V	-19.0	34.5	54.0	
1510.000000	20.6	1000.0	1000.000	V	-18.0	33.5	54.0	
4880.000000	35.9	1000.0	1000.000	V	-7.4	18.1	54.0	
7320.000000	45.3	1000.0	1000.000	V	-5.6	8.8	54.0	
15108.000000	40.1	1000.0	1000.000	V	5.6	13.9	54.0	
17926.000000	43.6	1000.0	1000.000	V	10.2	10.5	54.0	

Tested by: Jacky Chen Reviewed by: _____
20180113

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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

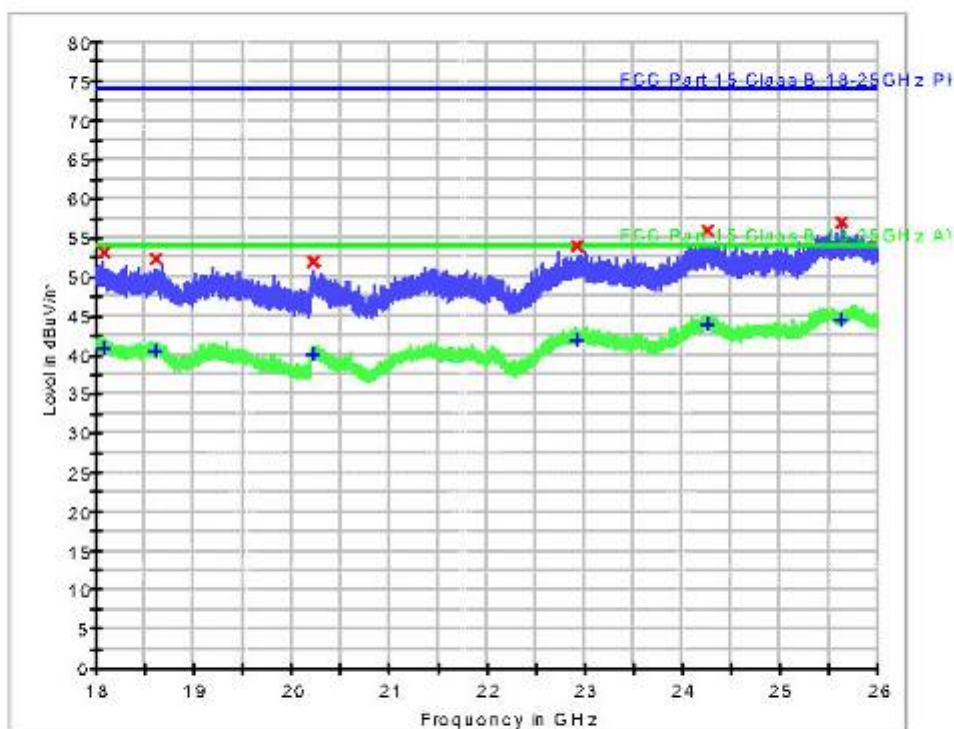
EMC Test Record (Emission)

Common Information

Manufacturer:	Seikaku
Test Item:	Mixer
Identification:	LD mixer 102A G3
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(BLE-High)
Climate Condition:	21 °C, 51 %, 100 kPa
Test Voltage/ Freq:	AC 120V / 60Hz
Receipt No:	174071875
Report No:	/
Result:	Pass
Comment:	Test distance is 3m; Horizontal

Subrange 1	18GHz-25GHz
Frequency Range:	TUV FSP30
Receiver:	TUV SAC HF907/ TUV FSP30-TUV SAC HF907
Transducer:	

EMCTT_EREFO11-A02-08_18GHz-25GHz_With PreAMP EXT



Tested by:

Jacky Chen

Reviewed by: _____

20180113

Prüfbericht - Nr.:

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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

Frequency (MHz)	MaxPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Comment
18078.000000	53.1	1000.0	1000.000	H	7.6	20.9	74.0	
18514.000000	52.4	1000.0	1000.000	H	7.8	21.6	74.0	
20218.000000	51.9	1000.0	1000.000	H	6.7	22.1	74.0	
22923.000000	54.0	1000.0	1000.000	H	8.1	20.0	74.0	
24254.000000	55.0	1000.0	1000.000	H	8.7	18.1	74.0	
25537.000000	57.0	1000.0	1000.000	H	9.8	17.0	74.0	

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - AV/G (dB)	Limit - AV/G (dBuV/m)	Comment
18078.000000	41.0	1000.0	1000.000	H	7.6	13.0	54.0	
18514.000000	40.4	1000.0	1000.000	H	7.8	13.6	54.0	
20218.000000	40.0	1000.0	1000.000	H	6.7	14.0	54.0	
22923.000000	42.0	1000.0	1000.000	H	8.1	12.0	54.0	
24254.000000	43.8	1000.0	1000.000	H	8.7	10.2	54.0	
25537.000000	44.5	1000.0	1000.000	H	9.8	9.5	54.0	

Tested by:

Jacky Chen

Reviewed by: _____

20180113

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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

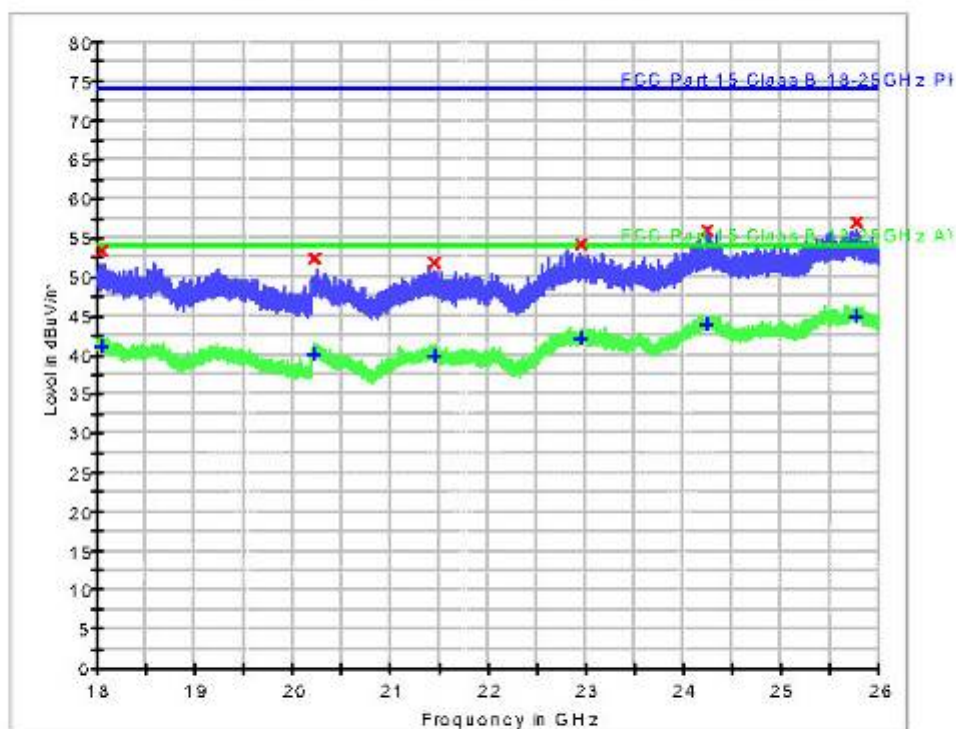
EMC Test Record (Emission)

Common Information

Manufacturer:	Seikaku
Test Item:	Mixer
Identification:	LD mixer 102A G3
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(BLE-High)
Climate Condition:	21 °C, 51 %, 100 kPa
Test Voltage/ Freq:	AC 120V / 60Hz
Receipt No:	174071875
Report No:	/
Result:	Pass
Comment:	Test distance is 3m, Vertical

Subrange 1	18GHz-25GHz
Frequency Range:	TUV FSP30
Receiver:	TUV SAC HF907/ TUV FSP30-TUV SAC HF907
Transducer:	

EMCTT_EREFO11-A02-08_18GHz-25GHz_With PreAMP EXT



Tested by: *Jacky Chen* Reviewed by: _____
20180113

Prüfbericht - Nr.:

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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

Frequency (MHz)	MaxPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Comment
18053.000000	53.4	1000.0	1000.000	V	7.6	20.6	74.0	
20230.000000	52.5	1000.0	1000.000	V	6.7	21.6	74.0	
21451.000000	51.8	1000.0	1000.000	V	6.6	22.2	74.0	
22952.000000	54.3	1000.0	1000.000	V	8.1	15.7	74.0	
24242.000000	55.9	1000.0	1000.000	V	8.7	16.1	74.0	
25772.000000	57.0	1000.0	1000.000	V	9.9	17.0	74.0	

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - AV/G (dB)	Limit - AV/G (dBuV/m)	Comment
18053.000000	41.0	1000.0	1000.000	V	7.6	13.0	54.0	
20230.000000	40.2	1000.0	1000.000	V	6.7	13.8	54.0	
21451.000000	39.9	1000.0	1000.000	V	6.6	14.1	54.0	
22952.000000	42.1	1000.0	1000.000	V	8.1	11.9	54.0	
24242.000000	43.9	1000.0	1000.000	V	8.7	10.1	54.0	
25772.000000	45.0	1000.0	1000.000	V	9.9	9.0	54.0	

Tested by: *Jacky Chen* Reviewed by: _____
20180113

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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

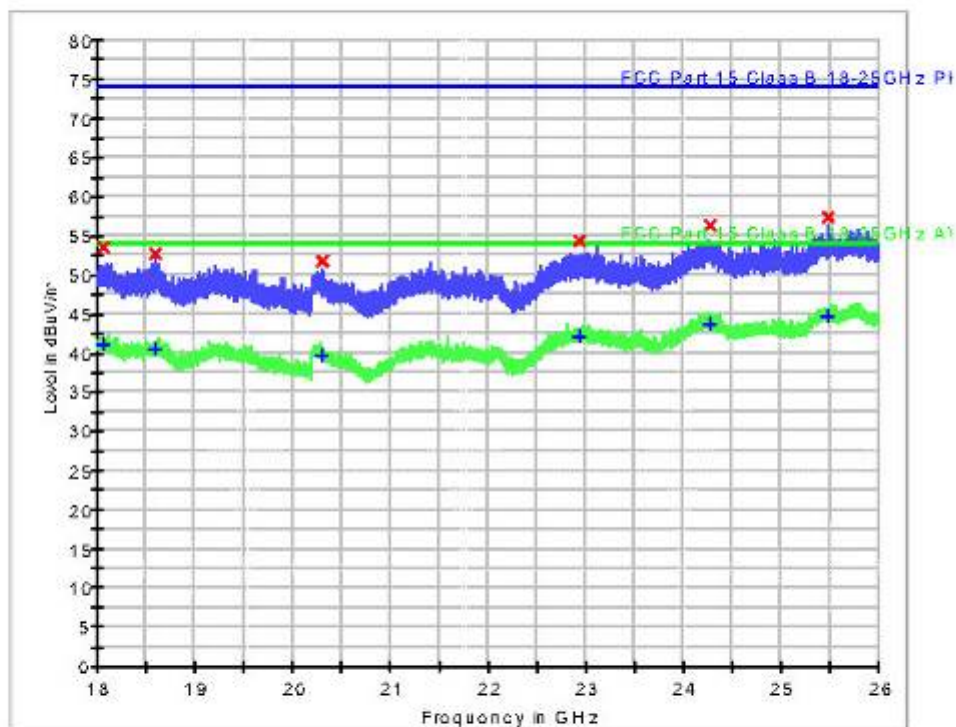
EMC Test Record (Emission)

Common Information

Manufacturer:	Seikaku
Test Item:	Mixer
Identification:	LD mixer 102A G3
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting (BLE-Low)
Climate Condition:	21 °C, 51 %, 100 kPa
Test Voltage/ Freq:	AC 120V / 60Hz
Receipt No:	174071875
Report No:	/
Result:	Pass
Comment:	Test distance is 3m, Horizontal

Subrange 1	
Frequency Range:	18GHz-25GHz
Receiver:	TUV FSP30
Transducer:	TUV SAC HF907/ TUV FSP30-TUV SAC HF907

EMCTT_EREFO11-A02-08_18GHz-25GHz_With PreAMP EXT



Tested by:

Jacky Chen

Reviewed by: _____

20180113

Prüfbericht - Nr.:

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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

Frequency (MHz)	MaxPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Comment
18061.000000	53.5	1000.0	1000.000	H	7.6	20.5	74.0	
18595.000000	52.8	1000.0	1000.000	H	7.7	21.2	74.0	
20300.000000	51.9	1000.0	1000.000	H	6.6	22.1	74.0	
22935.000000	54.4	1000.0	1000.000	H	8.1	19.6	74.0	
24270.000000	55.5	1000.0	1000.000	H	8.7	17.5	74.0	
25484.000000	57.5	1000.0	1000.000	H	9.7	16.5	74.0	

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - AV/G (dB)	Limit - AV/G (dBuV/m)	Comment
18061.000000	41.1	1000.0	1000.000	H	7.6	12.9	54.0	
18595.000000	40.4	1000.0	1000.000	H	7.7	13.6	54.0	
20300.000000	39.8	1000.0	1000.000	H	6.6	14.3	54.0	
22935.000000	42.1	1000.0	1000.000	H	8.1	11.9	54.0	
24270.000000	43.7	1000.0	1000.000	H	8.7	10.3	54.0	
25484.000000	44.7	1000.0	1000.000	H	9.7	9.3	54.0	

Tested by:

Jacky Chen

Reviewed by: _____

20180113

Prüfbericht - Nr.:

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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

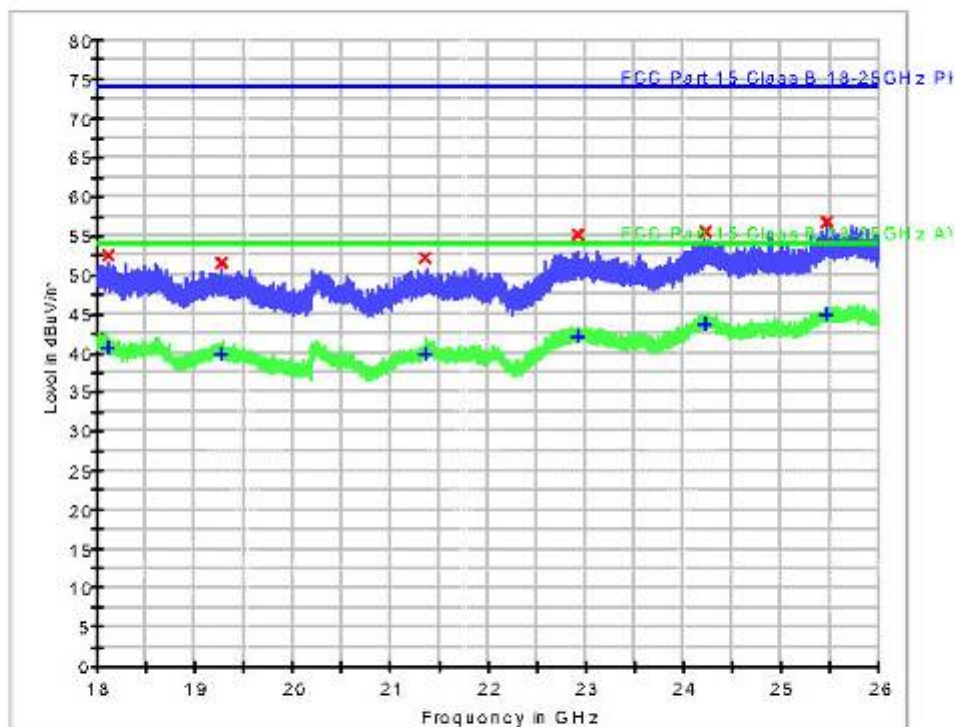
EMC Test Record (Emission)

Common Information

Manufacturer:	Seikaku
Test Item:	Mixer
Identification:	LD mixer 102A G3
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting (BLE-Low)
Climate Condition:	21 °C, 51 %, 100 kPa
Test Voltage/ Freq:	AC 120V / 60Hz
Receipt No:	174071875
Report No:	/
Result:	Pass
Comment:	Test distance is 3m, Vertical

Subrange 1	18GHz-25GHz
Frequency Range:	TUV FSP30
Receiver:	TUV SAC HF907/ TUV FSP30-TUV SAC HF907
Transducer:	

EMCTT_EREFO11-A02-08_18GHz-25GHz_With PreAMP EXT



Tested by:

Jacky Chen

Reviewed by: _____

20180113

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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

Frequency (MHz)	MaxPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Comment
18106.000000	52.6	1000.0	1000.000	V	7.6	21.5	74.0	
19281.000000	51.7	1000.0	1000.000	V	7.5	22.3	74.0	
21352.000000	52.2	1000.0	1000.000	V	6.4	21.8	74.0	
22912.000000	55.3	1000.0	1000.000	V	8.0	16.7	74.0	
24231.000000	55.5	1000.0	1000.000	V	8.7	16.5	74.0	
25467.000000	56.8	1000.0	1000.000	V	9.7	17.2	74.0	

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - AVG (dB)	Limit - AVG (dBuV/m)	Comment
18106.000000	40.6	1000.0	1000.000	V	7.6	13.4	54.0	
19281.000000	39.9	1000.0	1000.000	V	7.5	14.2	54.0	
21352.000000	39.9	1000.0	1000.000	V	6.4	14.1	54.0	
22912.000000	42.1	1000.0	1000.000	V	8.0	12.0	54.0	
24231.000000	43.8	1000.0	1000.000	V	8.7	10.2	54.0	
25467.000000	45.0	1000.0	1000.000	V	9.7	9.1	54.0	

Tested by:

Jacky Chen

Reviewed by: _____

20180113

Prüfbericht - Nr.:

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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

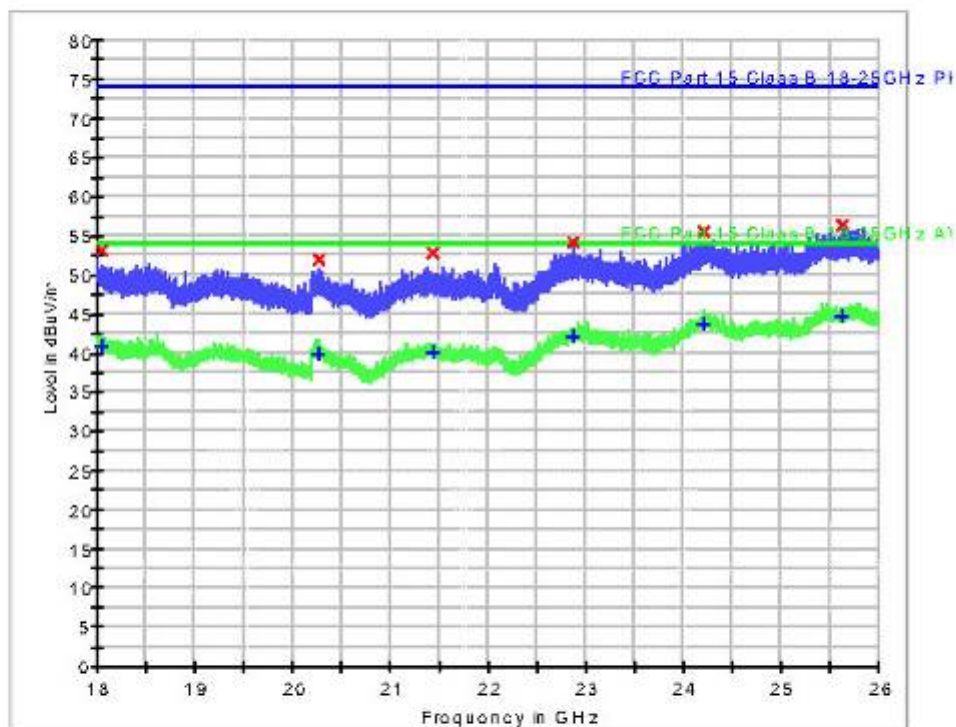
EMC Test Record (Emission)

Common Information

Manufacturer:	Seikaku
Test Item:	Mixer
Identification:	LD mixer 102A G3
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting (BLE-Mid)
Climate Condition:	21 °C, 51 %, 100 kPa
Test Voltage/ Freq:	AC 120V / 60Hz
Receipt No:	174071875
Report No:	/
Result:	Pass
Comment:	Test distance is 3m; Horizontal

Subrange 1	
Frequency Range:	18GHz-25GHz
Receiver:	TUV FSP30
Transducer:	TUV SAC HF907/ TUV FSP30-TUV SAC HF907

EMCTT_EREFO11-A02-08_18GHz-25GHz_With PreAMP EXT



Tested by:

Jacky Chen

Reviewed by: _____

20180113

Prüfbericht - Nr.:

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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

Frequency (MHz)	MaxPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Comment
18047.000000	53.2	1000.0	1000.000	H	7.6	20.8	74.0	
20277.000000	52.1	1000.0	1000.000	H	6.7	22.0	74.0	
21440.000000	52.8	1000.0	1000.000	H	6.6	21.2	74.0	
22871.000000	54.1	1000.0	1000.000	H	7.9	19.9	74.0	
24205.000000	55.6	1000.0	1000.000	H	8.7	18.4	74.0	
25632.000000	56.5	1000.0	1000.000	H	9.8	17.6	74.0	

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - AV/G (dB)	Limit - AV/G (dBuV/m)	Comment
18047.000000	41.0	1000.0	1000.000	H	7.6	13.0	54.0	
20277.000000	39.9	1000.0	1000.000	H	6.7	14.1	54.0	
21440.000000	40.2	1000.0	1000.000	H	6.6	13.8	54.0	
22871.000000	42.1	1000.0	1000.000	H	7.9	11.9	54.0	
24205.000000	43.7	1000.0	1000.000	H	8.7	10.3	54.0	
25632.000000	44.7	1000.0	1000.000	H	9.8	9.4	54.0	

Tested by:

Jacky Chen

Reviewed by: _____

20180113

Prüfbericht - Nr.:

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Test Report No.

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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

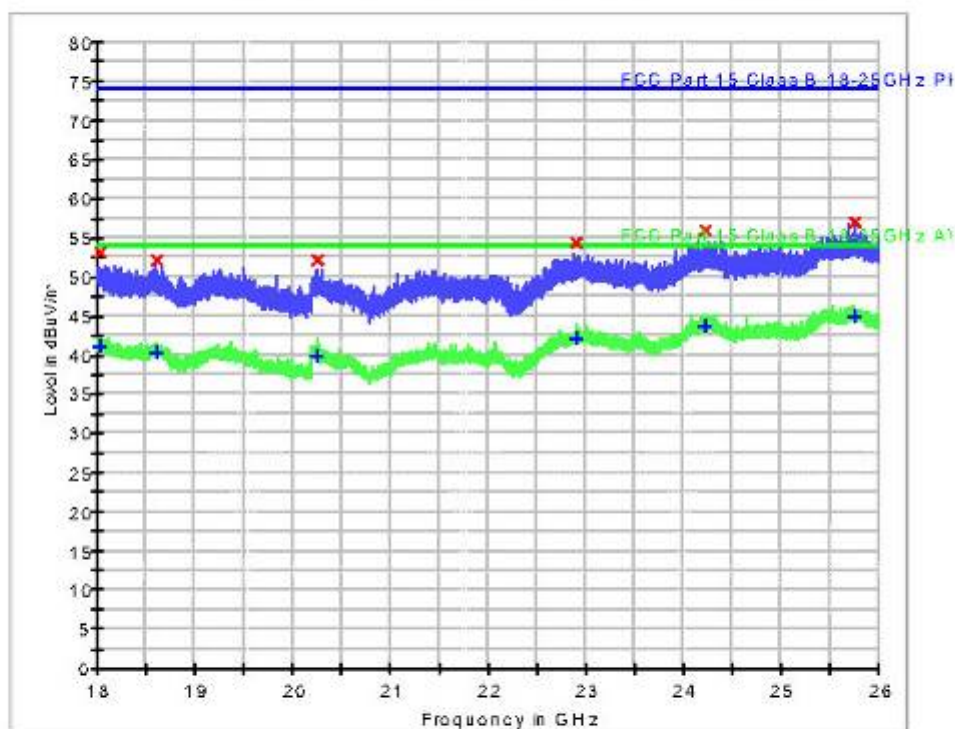
EMC Test Record (Emission)

Common Information

Manufacturer:	Seikaku
Test Item:	Mixer
Identification:	LD mixer 102A G3
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting (BLE-Mid)
Climate Condition:	21 °C, 51 % _h , 100 kPa
Test Voltage/ Freq:	AC 120V / 60Hz
Receipt No:	174071875
Report No:	/
Result:	Pass
Comment:	Test distance is 3m, Vertical

Subrange 1	18GHz-25GHz
Frequency Range:	TUV FSP30
Receiver:	TUV SAC HF907/ TUV FSP30-TUV SAC HF907
Transducer:	

EMCTT_EREFO11-A02-08_18GHz-25GHz_With PreAMP EXT



Tested by:

Jacky Chen

Reviewed by: _____

20180113

Prüfbericht - Nr.:

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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

Frequency (MHz)	MaxPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Poi	Corr. (dB)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Comment
18031.000000	53.3	1000.0	1000.000	V	7.6	20.7	74.0	
18614.000000	52.1	1000.0	1000.000	V	7.8	21.9	74.0	
20257.000000	52.1	1000.0	1000.000	V	6.7	21.9	74.0	
22904.000000	54.4	1000.0	1000.000	V	8.0	19.6	74.0	
24225.000000	55.1	1000.0	1000.000	V	8.7	17.9	74.0	
25761.000000	55.9	1000.0	1000.000	V	9.9	17.1	74.0	

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Poi	Corr. (dB)	Margin - AV/G (dB)	Limit - AV/G (dBuV/m)	Comment
18031.000000	41.1	1000.0	1000.000	V	7.6	12.9	54.0	
18614.000000	40.3	1000.0	1000.000	V	7.8	13.7	54.0	
20257.000000	40.0	1000.0	1000.000	V	6.7	14.0	54.0	
22904.000000	42.0	1000.0	1000.000	V	8.0	12.0	54.0	
24225.000000	43.7	1000.0	1000.000	V	8.7	10.3	54.0	
25761.000000	44.9	1000.0	1000.000	V	9.9	9.1	54.0	

Tested by:

Jacky Chen

Reviewed by: _____

20180113

Prüfbericht - Nr.:

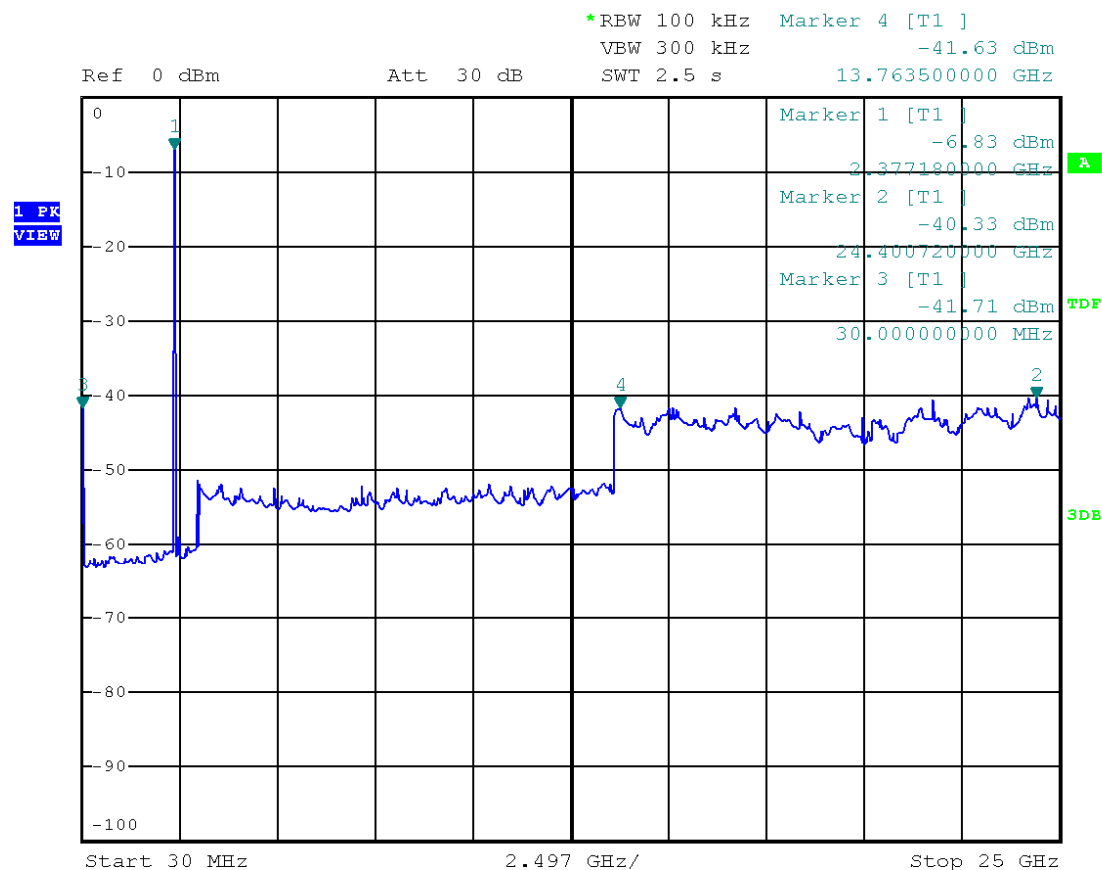
50141724 001

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Conducted Spurious Emissions-BDR-L CH



down 3dB

Date: 10.JAN.2018 13:50:33

Prüfbericht - Nr.:

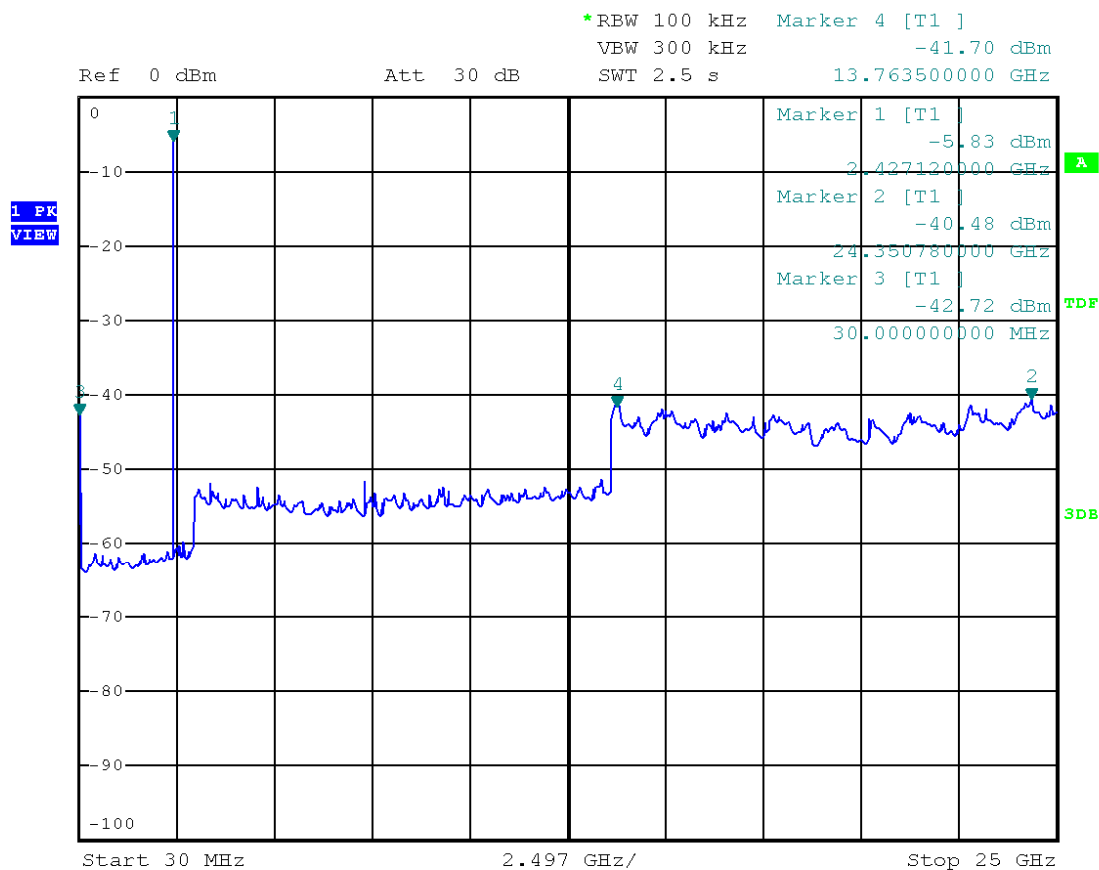
50141724 001

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Conducted Spurious Emissions-BDR-M CH



down 3dB

Date: 10.JAN.2018 13:51:55

Prüfbericht - Nr.:

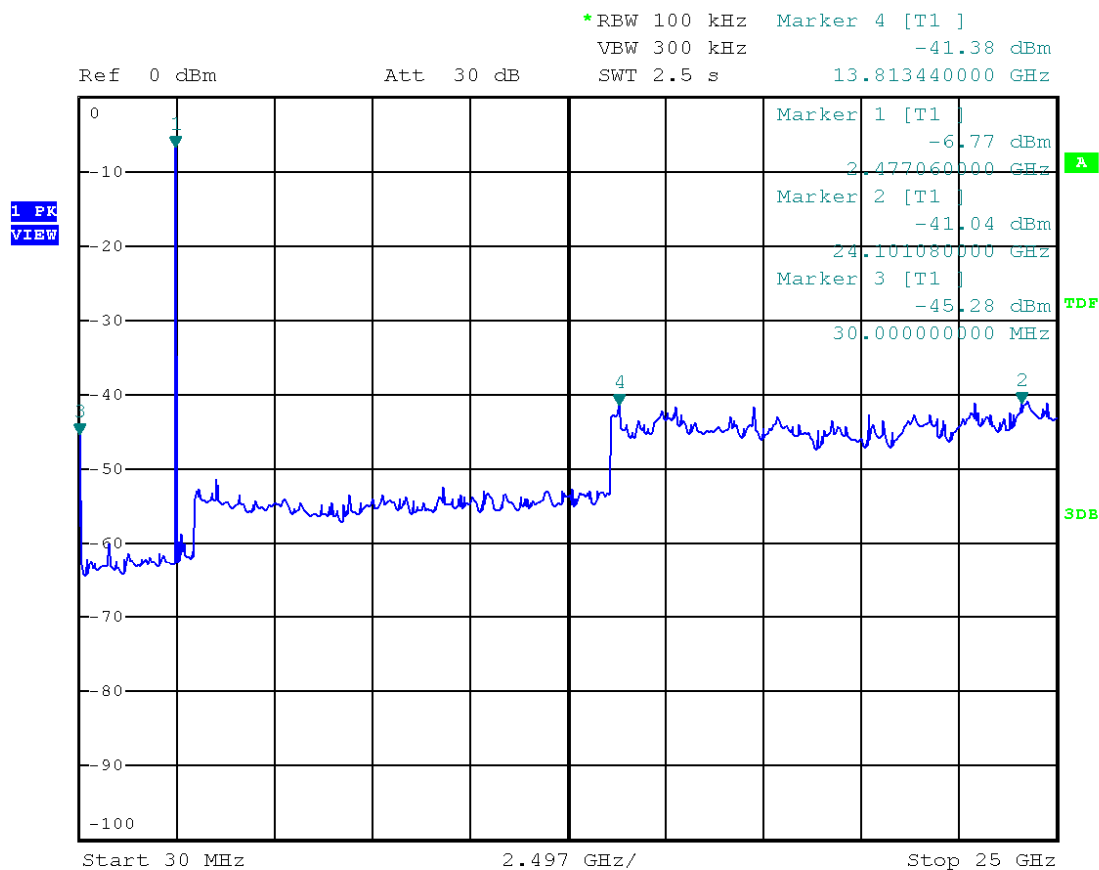
50141724 001

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Conducted Spurious Emissions-BDR-H CH



down 3dB

Date: 10.JAN.2018 13:52:58

Prüfbericht - Nr.:

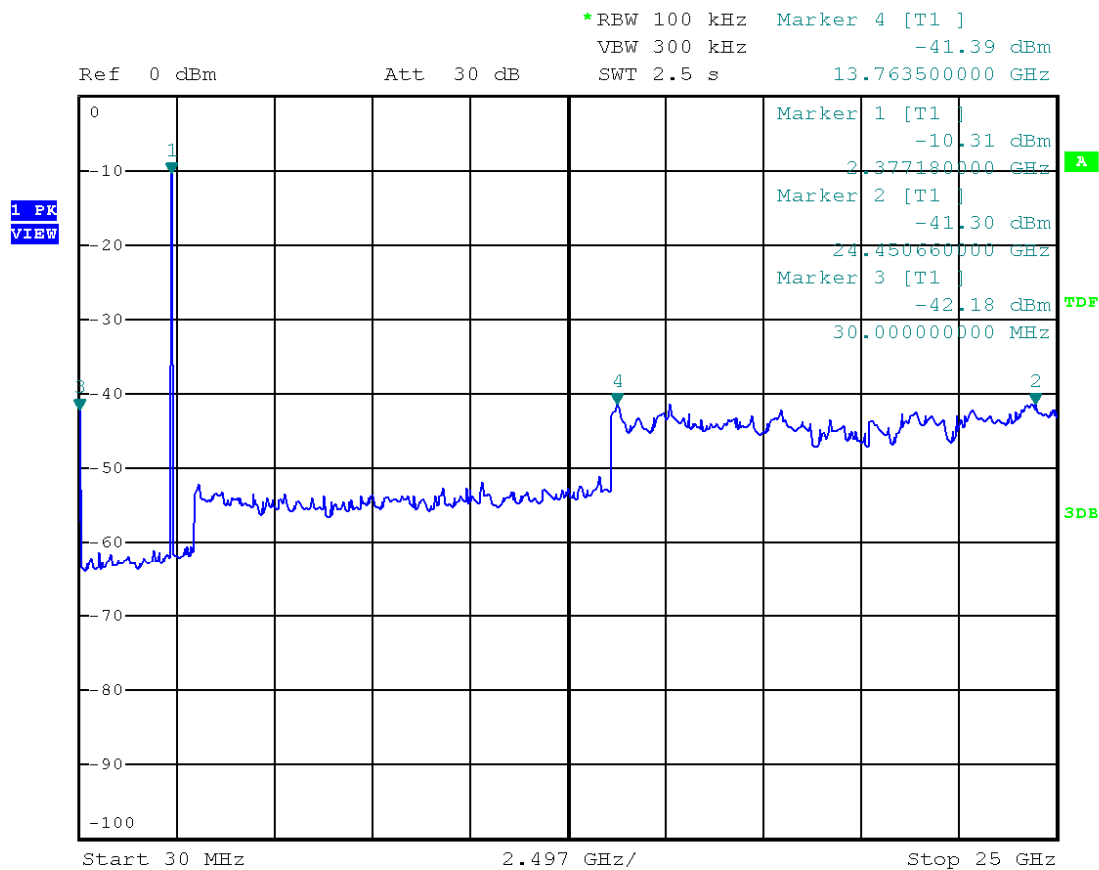
50141724 001

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Conducted Spurious Emissions-EDR-L CH



down 3dB

Date: 10.JAN.2018 13:56:56

Prüfbericht - Nr.:

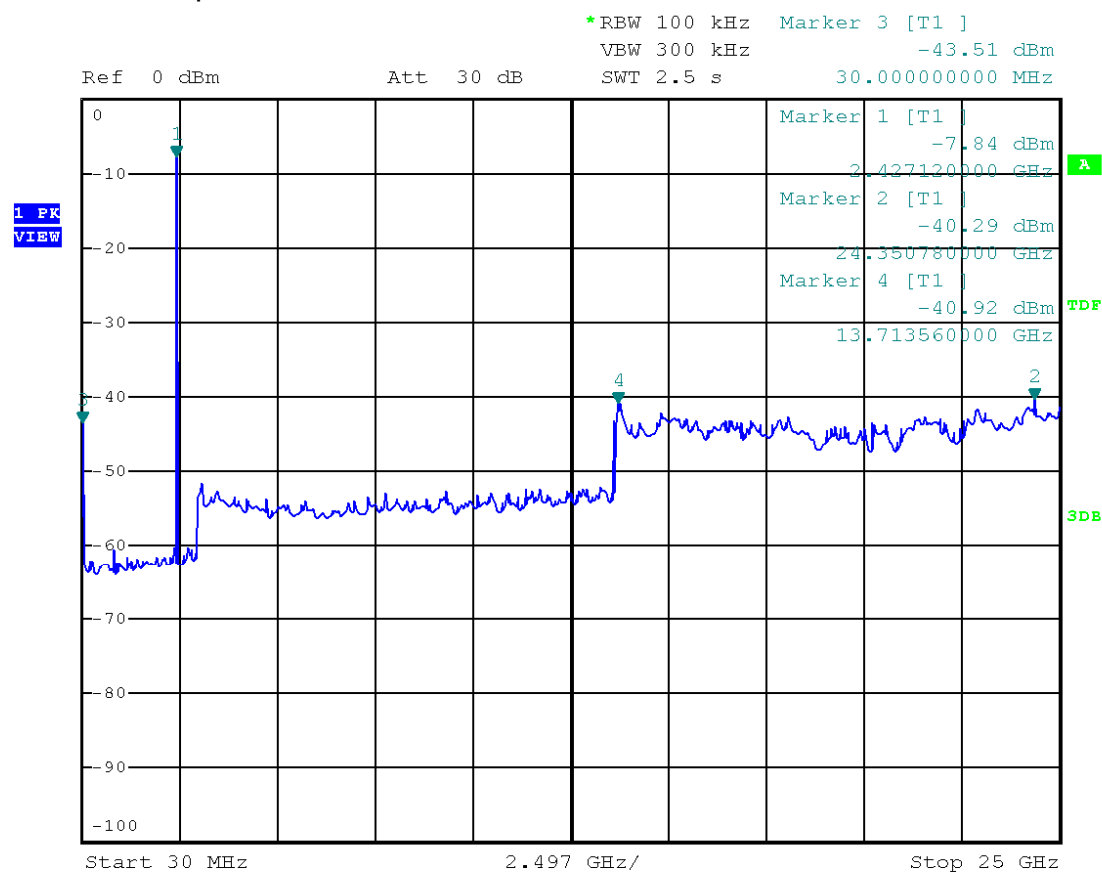
50141724 001

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Conducted Spurious Emissions-EDR-M CH



down 3dB

Date: 10.JAN.2018 13:55:42

Prüfbericht - Nr.:

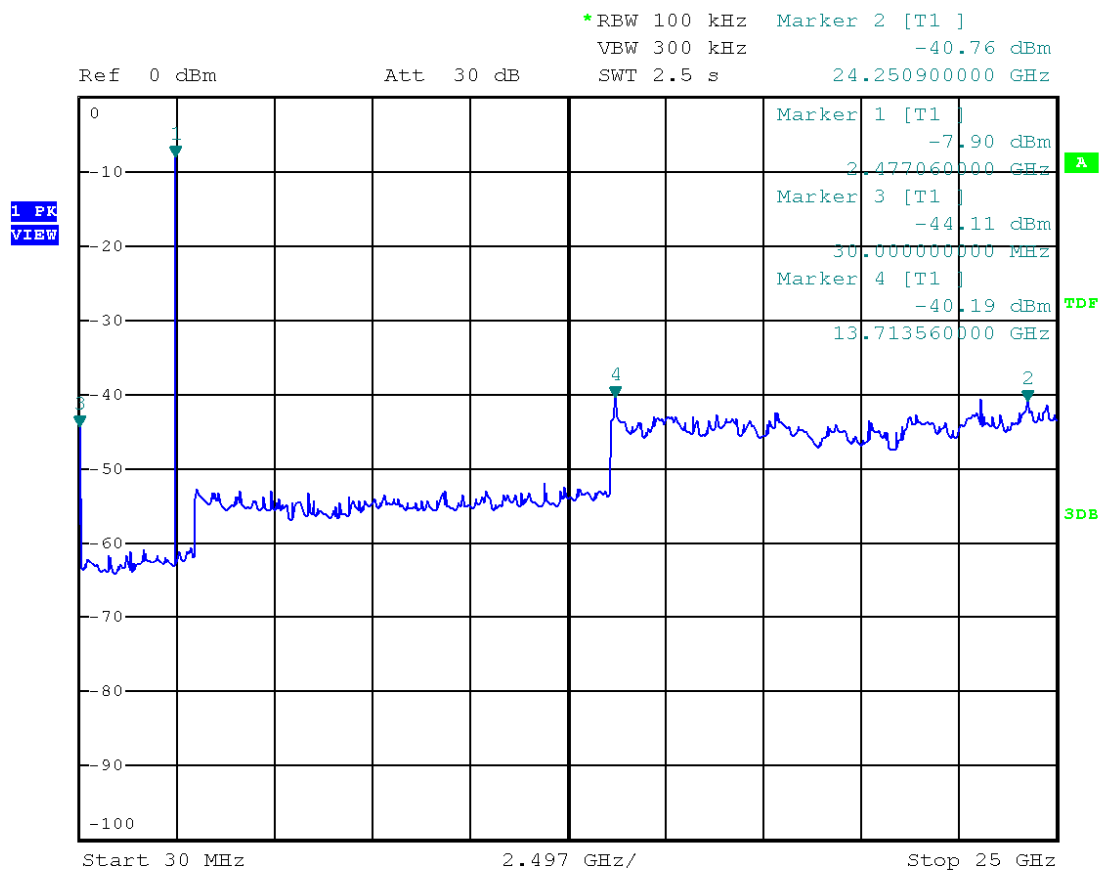
50141724 001

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Conducted Spurious Emissions-EDR-H CH



down 3dB

Date: 10.JAN.2018 13:54:33

Prüfbericht - Nr.:

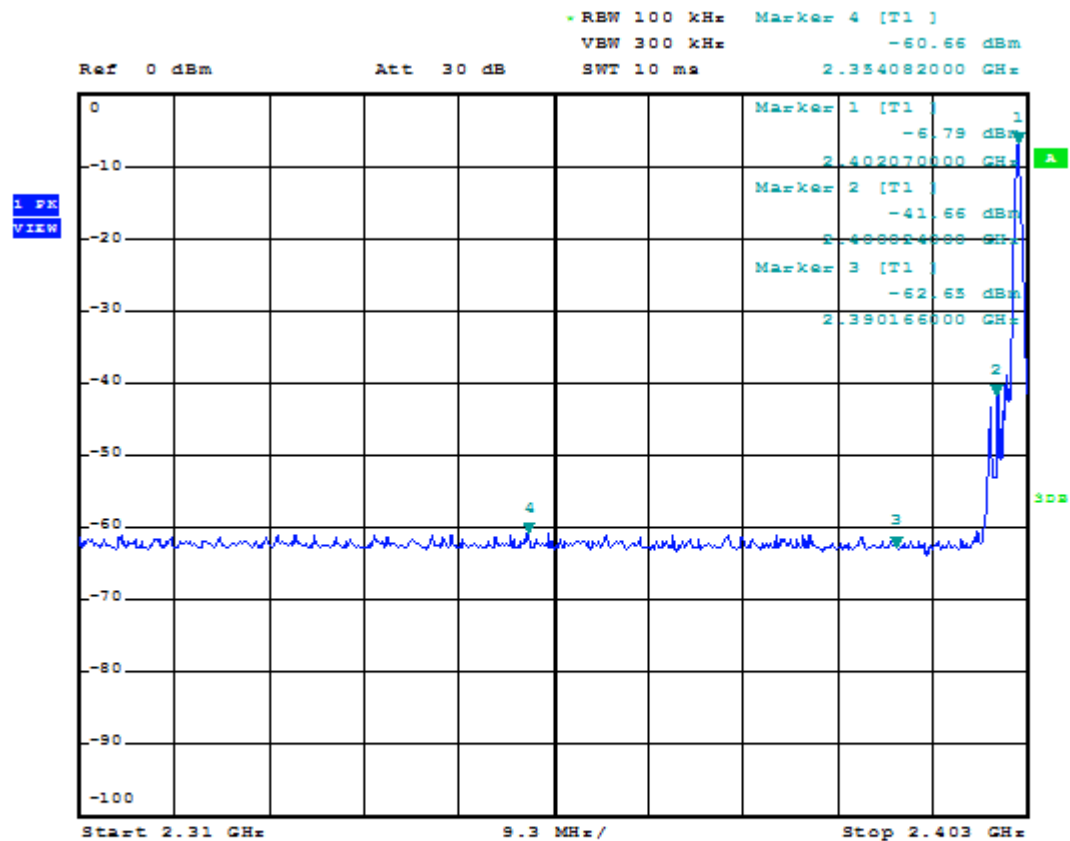
50141724 001

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Band Edge-BDR-L CH



Date: 3.APR.2018 13:22:00

Prüfbericht - Nr.:

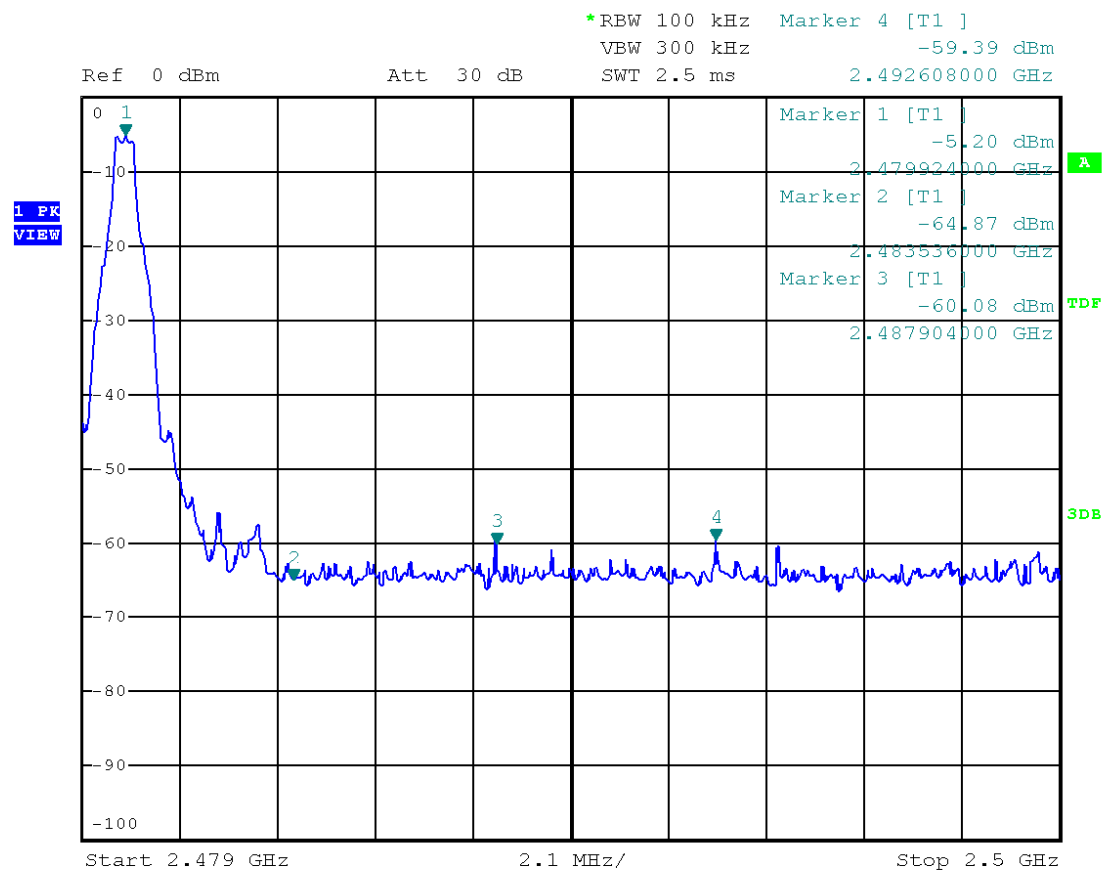
50141724 001

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Band Edge-BDR-H CH



down 3dB

Date: 10.JAN.2018 14:06:36

Prüfbericht - Nr.:

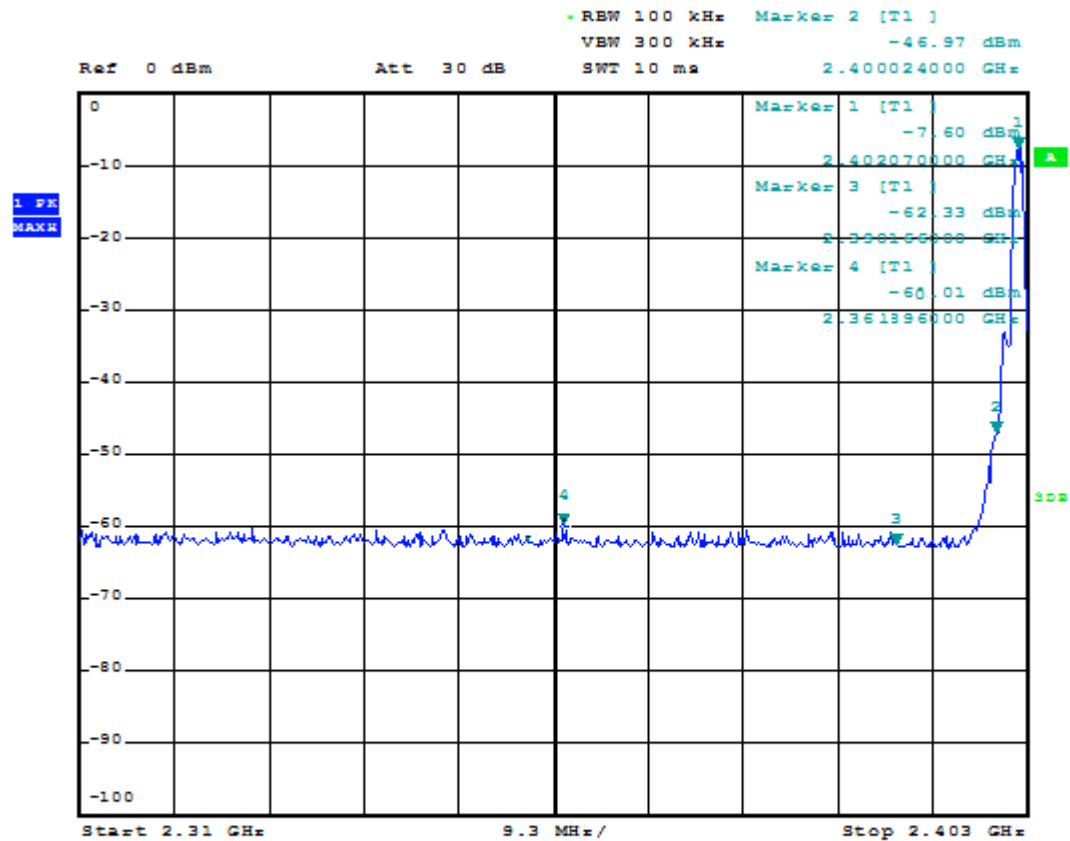
50141724 001

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Band Edge-EDR-L CH



Date: 3.APR.2018 13:32:23

Prüfbericht - Nr.:

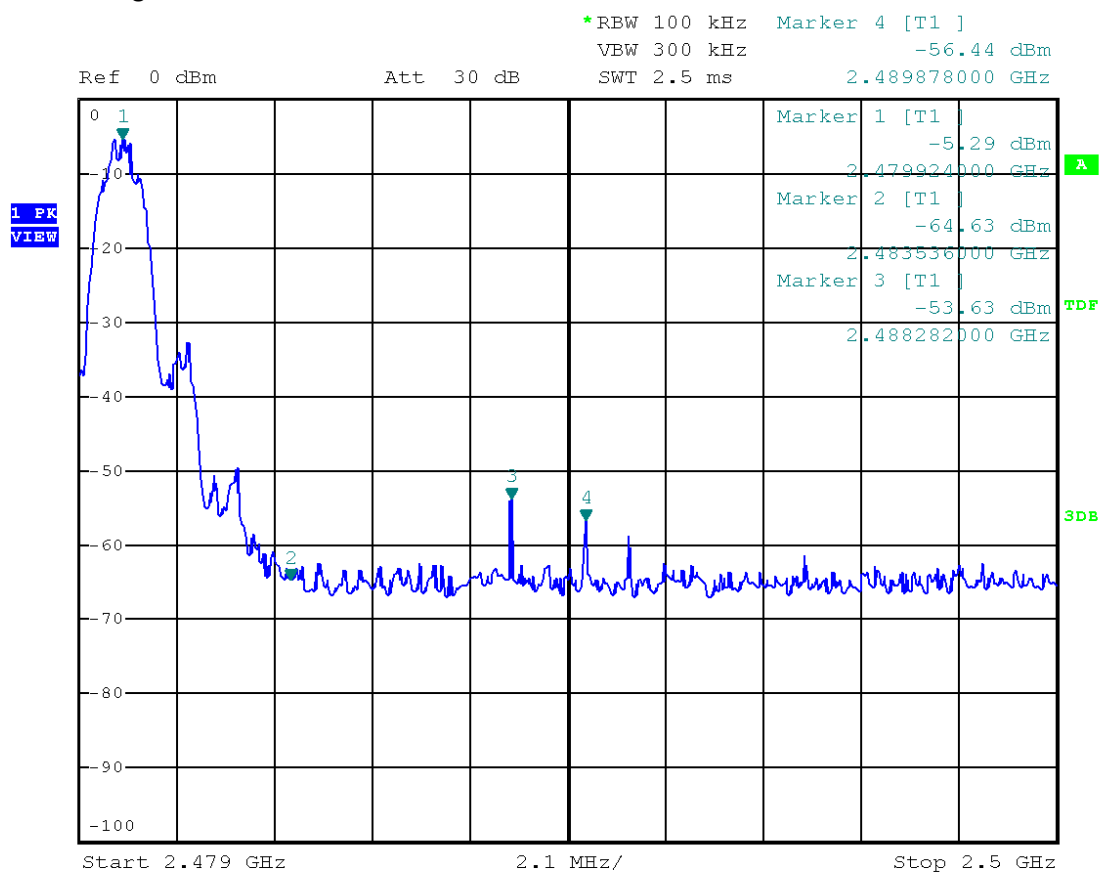
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Band Edge-EDR-H CH



down 3dB

Date: 10.JAN.2018 14:05:27

Band Edge-hopping-H CH

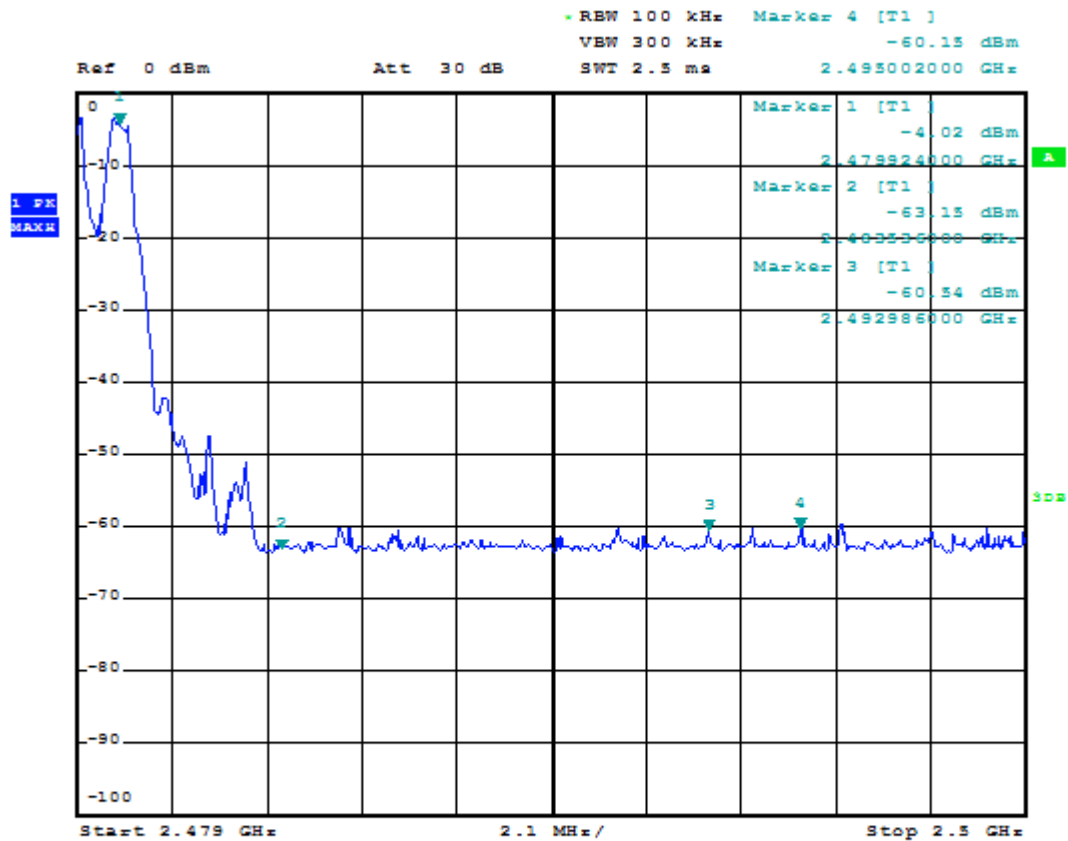
Prüfbericht - Nr.:

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Date: 3.APR.2018 13:45:13

Prüfbericht - Nr.:

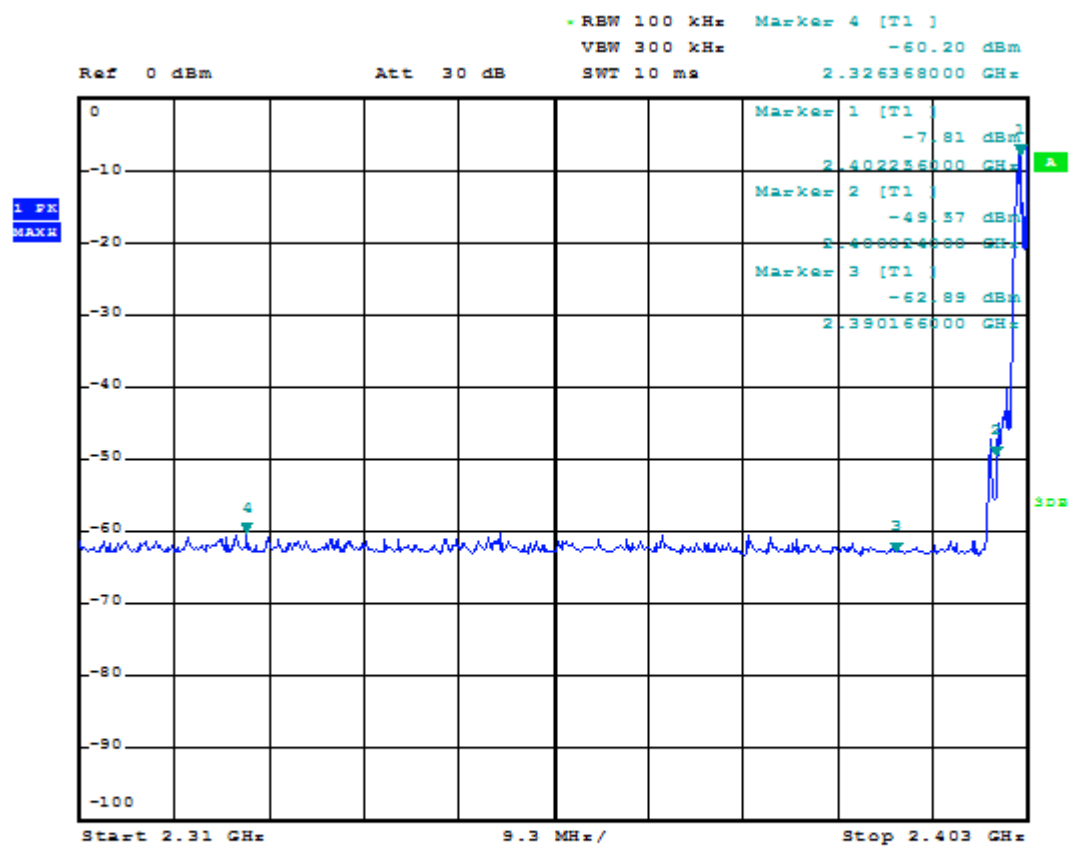
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Band Edge-hopping-L CH



Date: 3.APR.2018 13:41:14

Radiated Spurious Emissions

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TÜV Rheinland (Guangdong) Ltd.

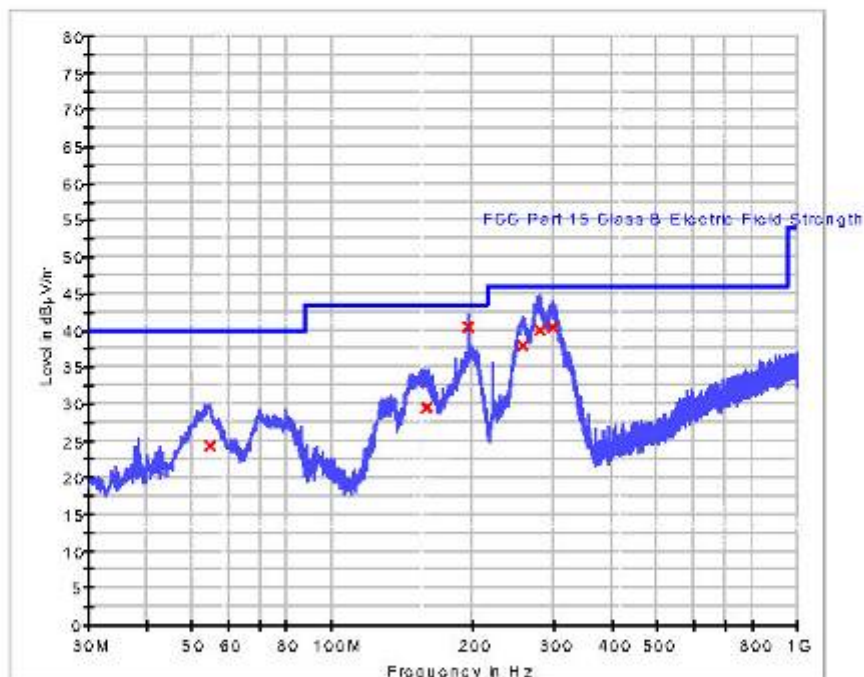
EMC Test Service Hotline: +86-20-26391188

EMC Test Record (Emission)

Common Information

Manufacturer:	Seikaku
Test Item:	Mixer
Identification:	LD mixer 102A G3
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(BDR-High)
Climate Condition:	21 °C, 51 %, 100 k Pa
Test Voltage/ Freq:	AC 120V / 60Hz
Receipt No:	174071875
Report No:	/
Result:	Pass
Comment:	Test distance is 3m, Horizontal

Subrange 1	
Frequency range:	30-1000MHz
Receiver:	ESCI 3
Transducer:	VULB9168



Tested by:

Jacky Chen

Reviewed by: _____

20180113

Prüfbericht - Nr.:

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TÜV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Mess. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)	Comment
54.600000	24.3	1000.0	120.000	H	20.4	15.7	40.0	
155.720000	29.6	1000.0	120.000	H	21.4	13.9	43.5	
195.600000	40.4	1000.0	120.000	H	18.2	3.1	43.5	
255.360000	38.0	1000.0	120.000	H	20.0	8.0	46.0	
275.280000	40.1	1000.0	120.000	H	21.1	5.9	46.0	
297.240000	40.4	1000.0	120.000	H	21.6	5.6	46.0	

Tested by:

Jacky Chen

Reviewed by: _____

20180113

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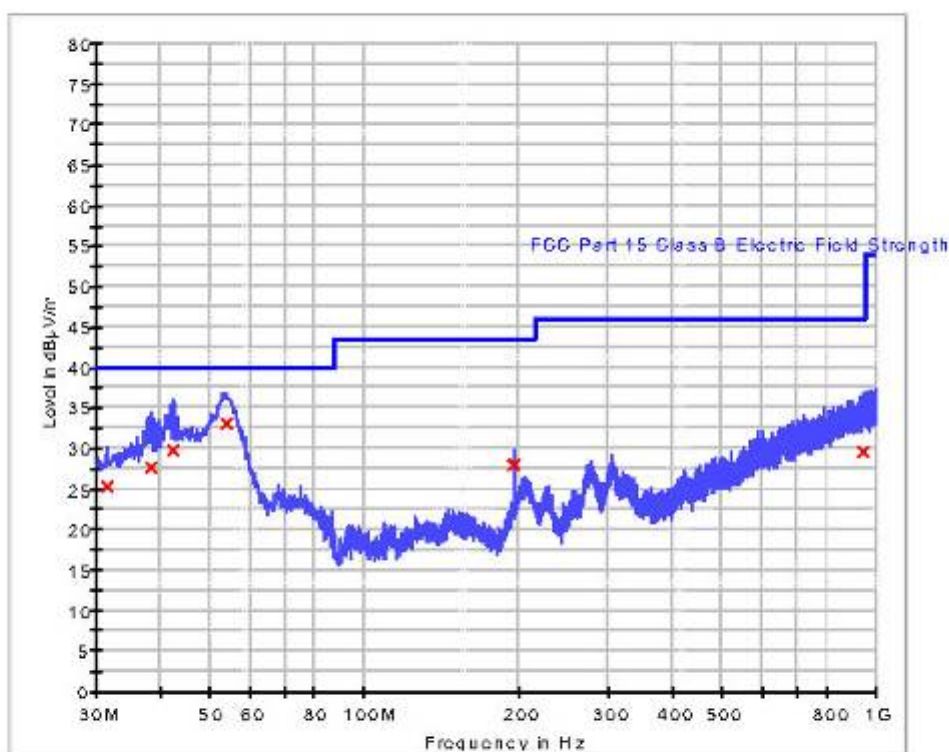
TÜV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:	Seikaku
Test Item:	Mixer
Identification:	LD mixer 102A G3
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(BDR-High)
Climate Condition:	21 °C, 51 % _h , 100 kPa
Test Voltage/ Freq:	AC 120V / 60Hz
Receipt No:	174071875
Report No:	/
Result:	Pass
Comment:	Test distance is 3m, Vertical
Subrange 1	
Frequency range:	30-1000MHz
Receiver:	ESCI 3
Transducer:	VULB9168



Tested by:

Jacky Chen

Reviewed by: _____

20180113

Prüfbericht - Nr.:

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TÜV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)	Comment
31.440000	25.3	1000.0	120.000	V	19.5	14.7	40.0	
38.360000	27.6	1000.0	120.000	V	20.5	12.4	40.0	
42.480000	29.8	1000.0	120.000	V	20.7	10.2	40.0	
53.660000	33.1	1000.0	120.000	V	20.5	6.5	40.0	
196.600000	28.0	1000.0	120.000	V	18.2	15.6	43.5	
944.720000	29.6	1000.0	120.000	V	35.4	16.4	46.0	

Tested by: Jacky Chen Reviewed by: _____
20180113

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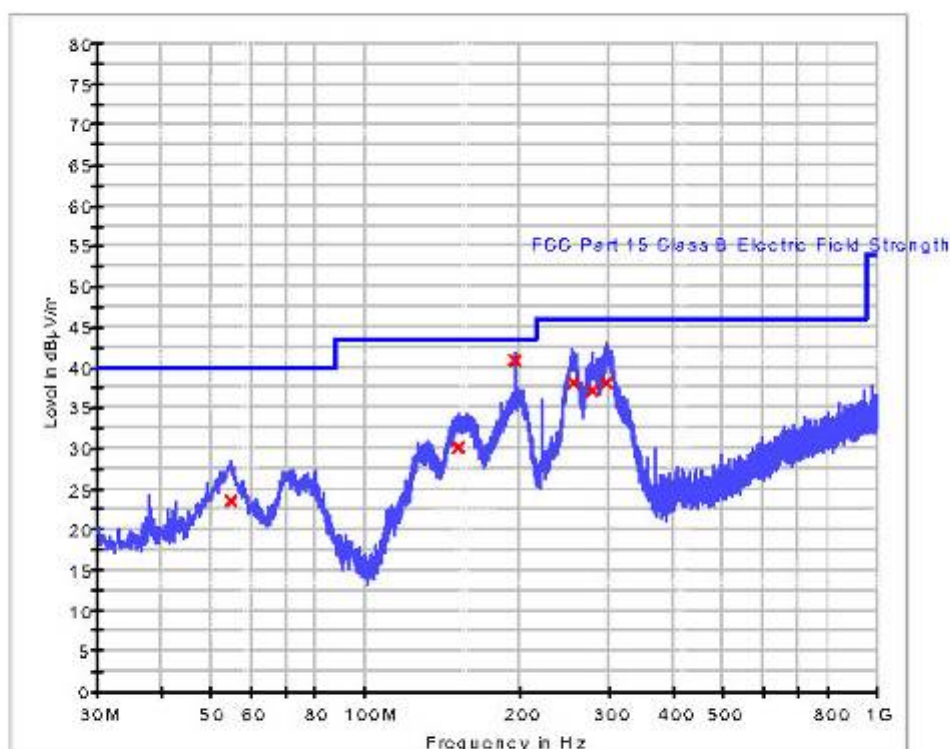
TÜV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:	Seikaku
Test Item:	Mixer
Identification:	LD mixer 102A G3
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(BDR-Low)
Climate Condition:	21 °C, 51 % _h , 100 kPa
Test Voltage/ Freq:	AC 120V / 60Hz
Receipt No:	174071875
Report No:	/
Result:	Pass
Comment:	Test distance is 3m; Horizontal
Subrange 1	
Frequency range:	30-1000MHz
Receiver:	ESCI 3
Transducer:	VULB9168



Tested by: Jacky Chen Reviewed by: _____
20180113

Prüfbericht - Nr.:

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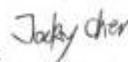
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TÜV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)	Comment
54.600000	23.5	1000.0	120.000	H	20.4	16.5	40.0	
152.080000	30.1	1000.0	120.000	H	21.3	13.4	43.5	
196.000000	40.8	1000.0	120.000	H	18.2	2.7	43.5	
255.280000	38.2	1000.0	120.000	H	15.5	7.8	46.0	
276.880000	37.2	1000.0	120.000	H	21.0	8.8	46.0	
295.760000	38.2	1000.0	120.000	H	21.6	7.9	46.0	

Tested by:  Reviewed by: _____
20180113

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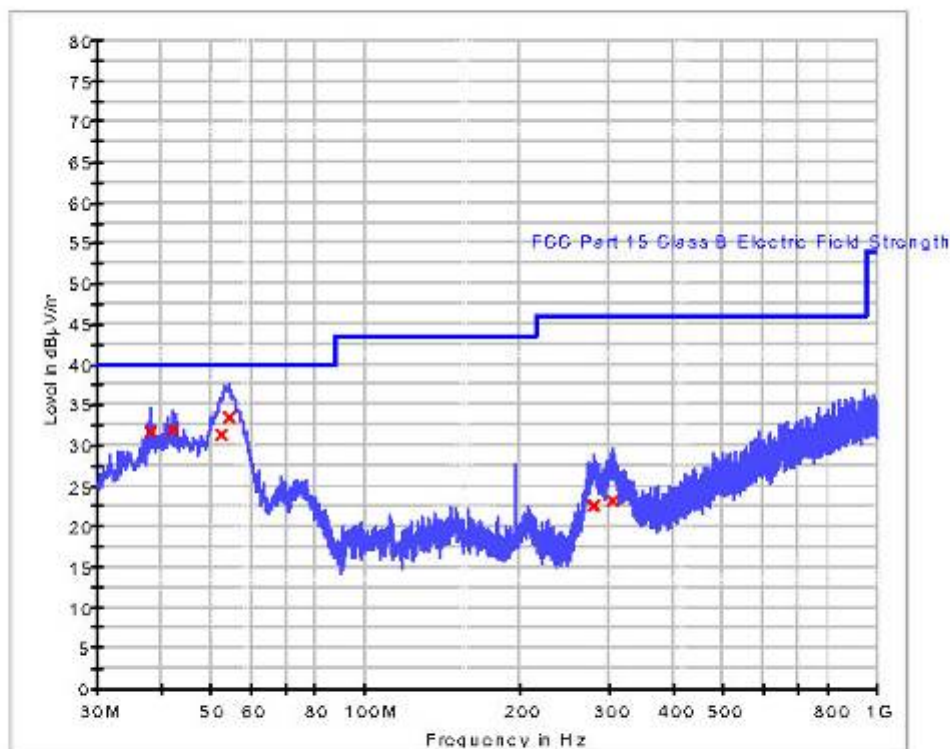
TÜV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:	Seikaku
Test Item:	Mixer
Identification:	LD mixer 102A G3
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(BDR-Low)
Climate Condition:	21 °C, 51 %, 100 kPa
Test Voltage/ Freq:	AC 120V / 60Hz
Receipt No:	174071875
Report No:	/
Result:	Pass
Comment:	Test distance is 3m Vertical
Subrange 1	
Frequency range:	30-1000MHz
Receiver:	ESCI 3
Transducer:	VULB9168



Tested by:

Jacky Chen

Reviewed by: _____

20180113

Prüfbericht - Nr.:

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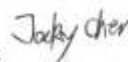
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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)	Comment
38.120000	31.7	1000.0	120.000	V	20.4	8.3	40.0	
42.120000	31.9	1000.0	120.000	V	20.7	8.1	40.0	
52.440000	31.3	1000.0	120.000	V	20.6	8.7	40.0	
54.360000	33.6	1000.0	120.000	V	20.4	6.5	40.0	
278.520000	22.5	1000.0	120.000	V	21.1	23.5	45.0	
303.800000	23.1	1000.0	120.000	V	21.8	22.9	45.0	

Tested by:  Reviewed by: _____
20180113

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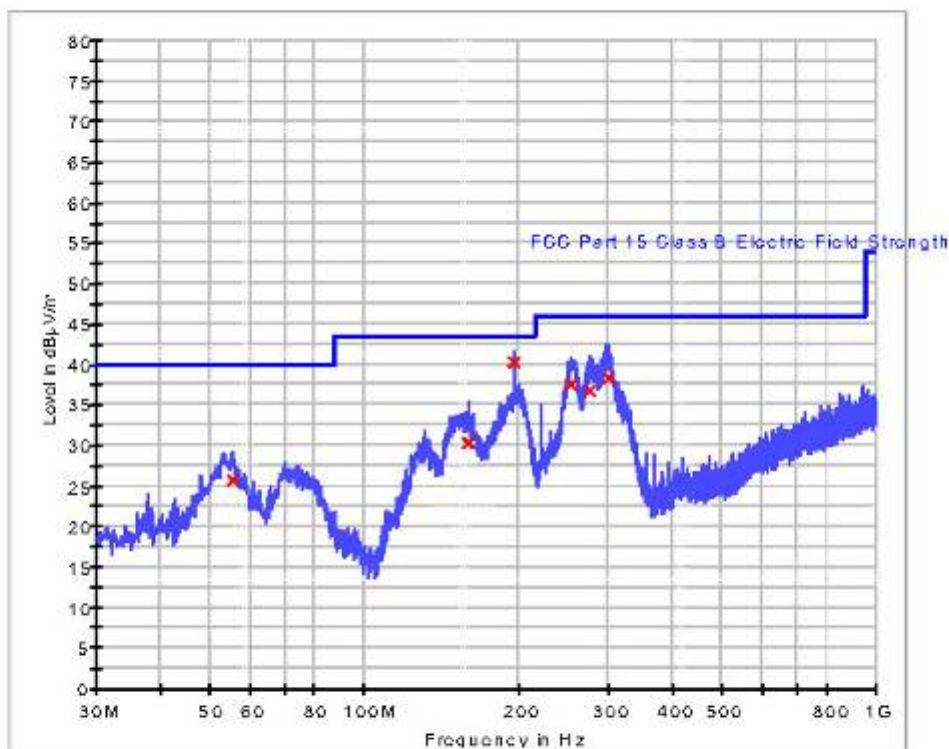
TÜV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:	Seikaku
Test Item:	Mixer
Identification:	LD mixer 102A G3
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(BDR-Mid)
Climate Condition:	21 °C, 51 %, 100 kPa
Test Voltage/ Freq:	AC 120V / 60Hz
Receipt No:	174071875
Report No:	/
Result:	Pass
Comment:	Test distance is 3m; Horizontal
Subrange 1	
Frequency range:	30-1000MHz
Receiver:	ESCI 3
Transducer:	VULB9168



Tested by:

Jacky Chen

Reviewed by: _____

20180113

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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)	Comment
55.480000	25.6	1000.0	120.000	H	20.4	14.4	40.0	
159.240000	30.4	1000.0	120.000	H	21.4	13.2	43.5	
196.600000	40.3	1000.0	120.000	H	18.2	3.2	43.5	
253.640000	37.6	1000.0	120.000	H	15.5	6.4	46.0	
275.640000	36.8	1000.0	120.000	H	20.9	9.2	46.0	
299.040000	38.3	1000.0	120.000	H	21.7	7.7	46.0	

Tested by:

Jacky Chen

Reviewed by: _____

20180113

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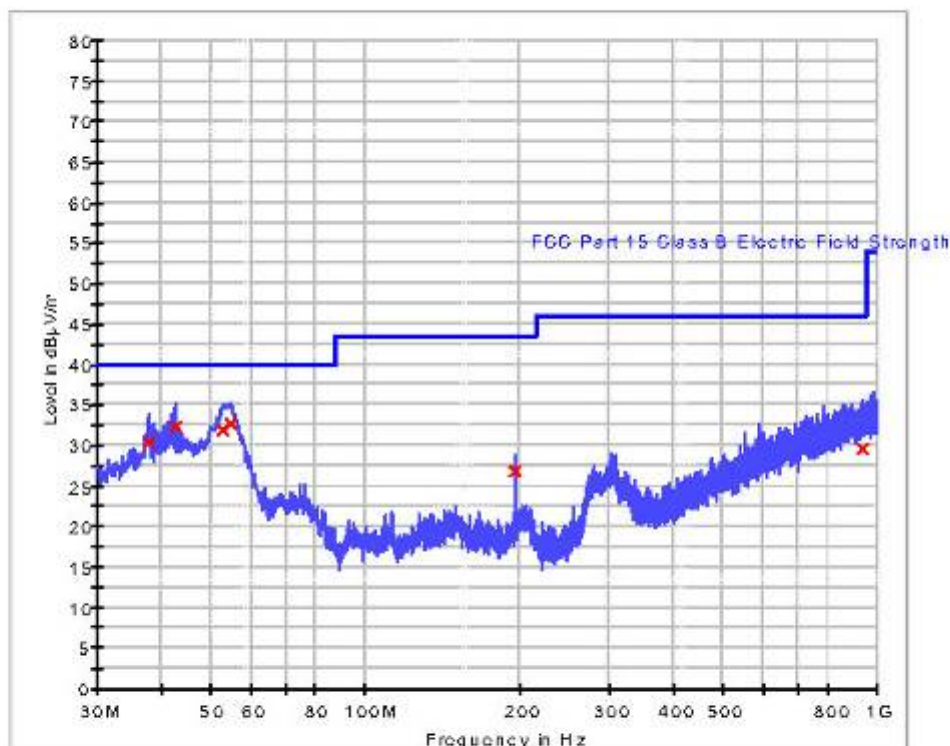
TÜV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:	Seikaku
Test Item:	Mixer
Identification:	LD mixer 102A G3
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(BDR-Mid)
Climate Condition:	21 °C, 51 %, 100 kPa
Test Voltage/ Freq:	AC 120V / 60Hz
Receipt No:	174071875
Report No:	/
Result:	Pass
Comment:	Test distance is 3m, Vertical
Subrange 1	
Frequency range:	30-1000MHz
Receiver:	ESCI 3
Transducer:	VULB9168



Tested by:

Jacky Chen

Reviewed by: _____

20180113

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TÜV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)	Comment
37.800000	30.3	1000.0	120.000	V	20.4	9.7	40.0	
42.600000	32.2	1000.0	120.000	V	20.7	7.8	40.0	
52.800000	31.9	1000.0	120.000	V	20.5	8.1	40.0	
54.600000	32.8	1000.0	120.000	V	20.4	7.2	40.0	
196.600000	26.9	1000.0	120.000	V	18.2	16.6	43.5	
940.720000	29.6	1000.0	120.000	V	35.3	16.5	46.0	

Tested by:

Jacky Chen

Reviewed by: _____

20180113

Prüfbericht - Nr.:

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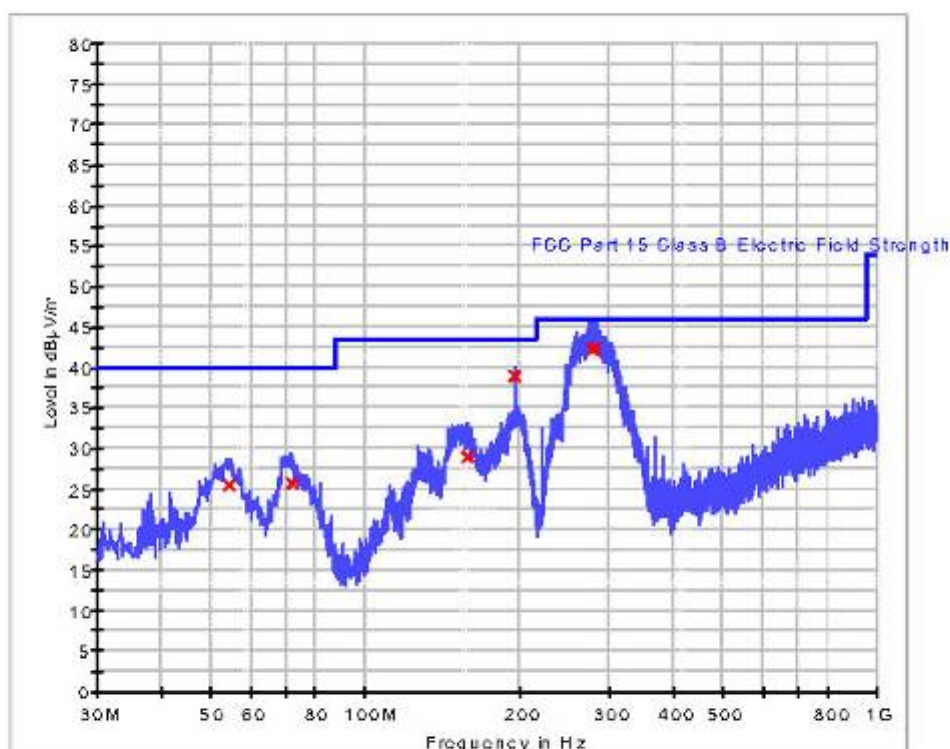
TÜV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:	Seikaku
Test Item:	Mixer
Identification:	LD mixer 102A G3
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(EDR-High)
Climate Condition:	21 °C, 51 % _h , 100 kPa
Test Voltage/ Freq:	AC 120V / 60Hz
Receipt No:	174071875
Report No:	/
Result:	Pass
Comment:	Test distance is 3m; Horizontal
Subrange 1	
Frequency range:	30-1000MHz
Receiver:	ESCI 3
Transducer:	VULB9168



Tested by:

Jacky Chen

Reviewed by: _____

20180113

Prüfbericht - Nr.:

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TÜV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)	Comment
54.240000	25.6	1000.0	120.000	H	20.4	14.4	40.0	
71.960000	25.7	1000.0	120.000	H	18.1	14.3	40.0	
158.520000	29.1	1000.0	120.000	H	21.4	14.5	43.5	
196.600000	38.9	1000.0	120.000	H	18.2	4.6	43.5	
277.480000	42.3	1000.0	120.000	H	21.0	3.8	46.0	
282.200000	42.4	1000.0	120.000	H	21.2	3.6	46.0	

Tested by:

Jacky Chen

Reviewed by: _____

20180113

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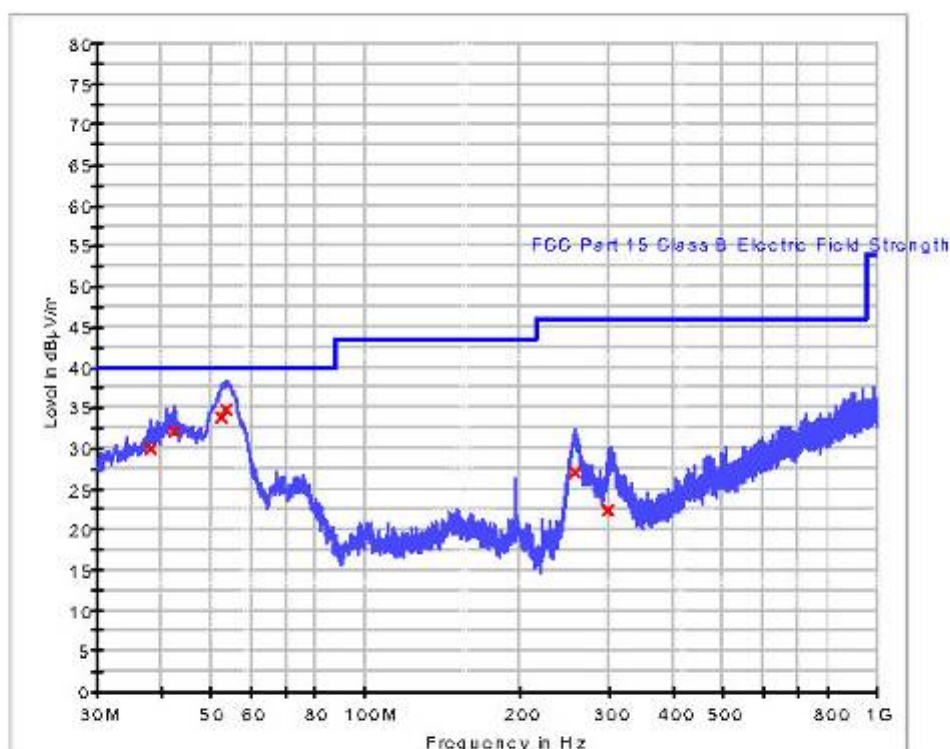
TÜV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:	Seikaku
Test Item:	Mixer
Identification:	LD mixer 102A G3
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(EDR-High)
Climate Condition:	21 °C, 51 % _h , 100 kPa
Test Voltage/ Freq:	AC 120V / 60Hz
Receipt No:	174071875
Report No:	/
Result:	Pass
Comment:	Test distance is 3m, Vertical
Subrange 1	
Frequency range:	30-1000MHz
Receiver:	ESCI 3
Transducer:	VULB9168



Tested by: Jacky Chen Reviewed by: _____
20180113

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TÜV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)	Comment
38.120000	29.9	1000.0	120.000	V	20.4	10.1	40.0	
42.360000	32.1	1000.0	120.000	V	20.7	7.9	40.0	
52.680000	33.9	1000.0	120.000	V	20.5	6.1	40.0	
53.640000	34.9	1000.0	120.000	V	20.5	5.1	40.0	
257.480000	27.1	1000.0	120.000	V	20.0	19.0	46.0	
298.800000	22.3	1000.0	120.000	V	21.7	23.7	46.0	

Tested by:

Jacky Chen

Reviewed by: _____

20180113

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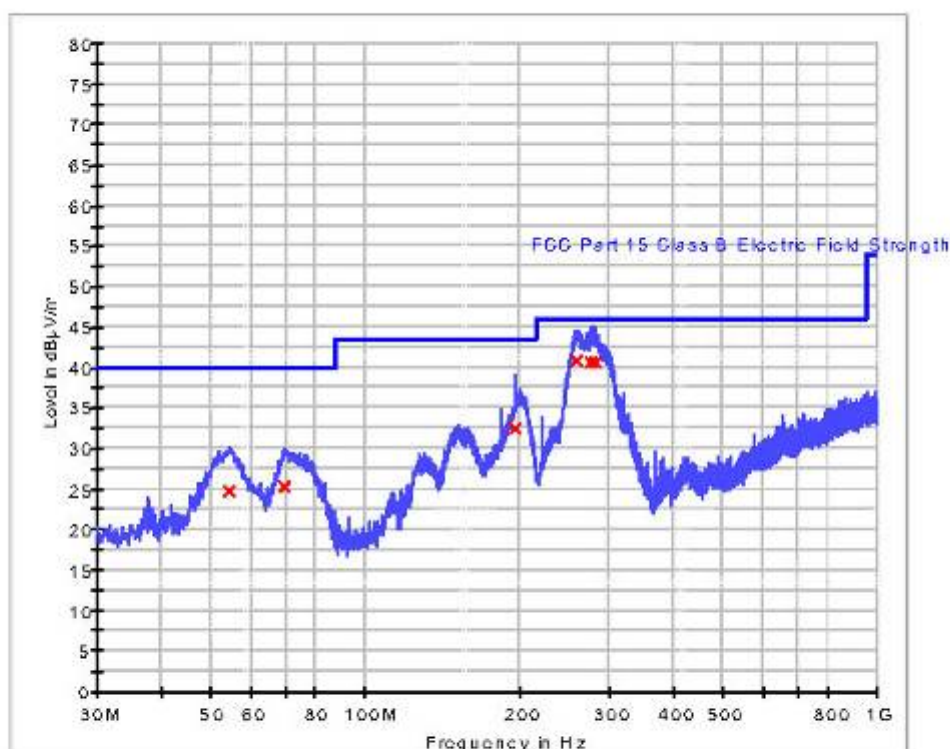
EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:	Seikaku
Test Item:	Mixer
Identification:	LD mixer 102A G3
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(EDR-Low)
Climate Condition:	21 °C, 51 % _h , 100 kPa
Test Voltage/ Freq:	AC 120V / 60Hz
Receipt No:	174071875
Report No:	/
Result:	Pass
Comment:	Test distance is 3m; Horizontal

Subrange 1	
Frequency range:	30-1000MHz
Receiver:	ESCI 3
Transducer:	VULB9168



Tested by:

Jacky Chen

Reviewed by: _____

20180113

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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)	Comment
54.480000	24.7	1000.0	120.000	H	20.4	15.3	40.0	
69.880000	25.4	1000.0	120.000	H	18.4	14.6	40.0	
196.480000	32.6	1000.0	120.000	H	18.2	10.9	43.5	
257.720000	40.9	1000.0	120.000	H	20.0	5.1	46.0	
275.880000	40.7	1000.0	120.000	H	21.0	5.3	46.0	
282.200000	40.6	1000.0	120.000	H	21.2	5.4	46.0	

Tested by:

Jacky Chen

Reviewed by: _____

20180113

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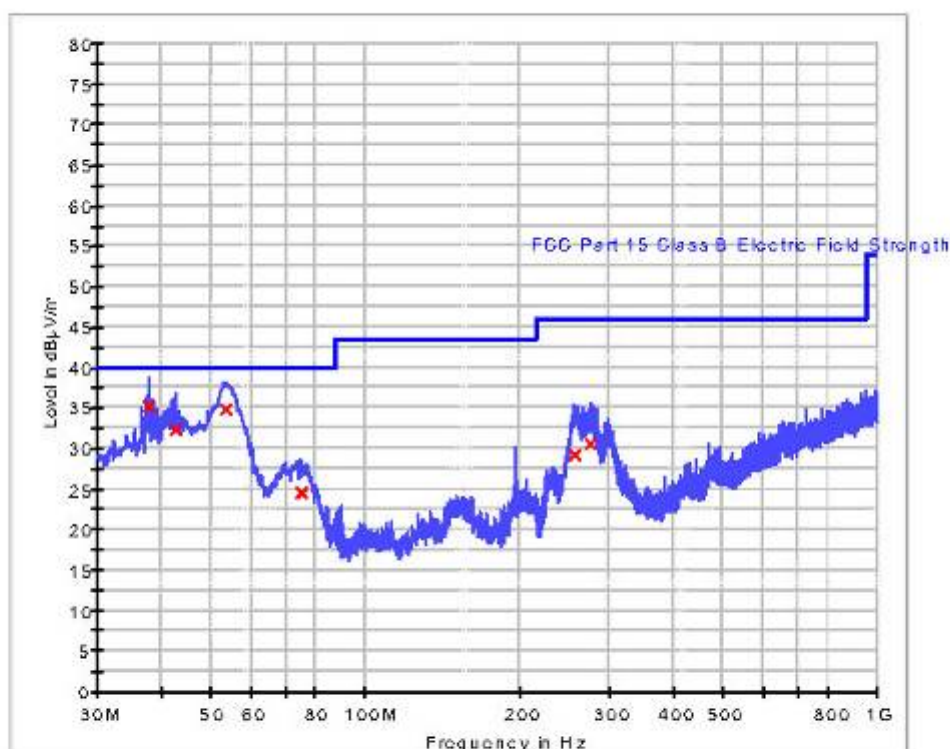
TÜV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:	Seikaku
Test Item:	Mixer
Identification:	LD mixer 102A G3
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(EDR-Low)
Climate Condition:	21 °C, 51 % _h , 100 kPa
Test Voltage/ Freq:	AC 120V / 60Hz
Receipt No:	174071875
Report No:	/
Result:	Pass
Comment:	Test distance is 3m, Vertical
Subrange 1	
Frequency range:	30-1000MHz
Receiver:	ESCI 3
Transducer:	VULB9168



Tested by:

Jacky Chen

Reviewed by: _____

20180113

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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)	Comment
37.680000	35.3	1000.0	120.000	V	20.4	4.7	40.0	
42.600000	32.4	1000.0	120.000	V	20.7	7.6	40.0	
53.640000	34.8	1000.0	120.000	V	20.5	5.2	40.0	
75.120000	24.5	1000.0	120.000	V	17.6	15.5	40.0	
256.120000	29.3	1000.0	120.000	V	20.0	16.7	46.0	
276.120000	30.5	1000.0	120.000	V	21.0	15.5	46.0	

Tested by:

Jacky Chen

Reviewed by: _____

20180113

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TÜV Rheinland (Guangdong) Ltd.

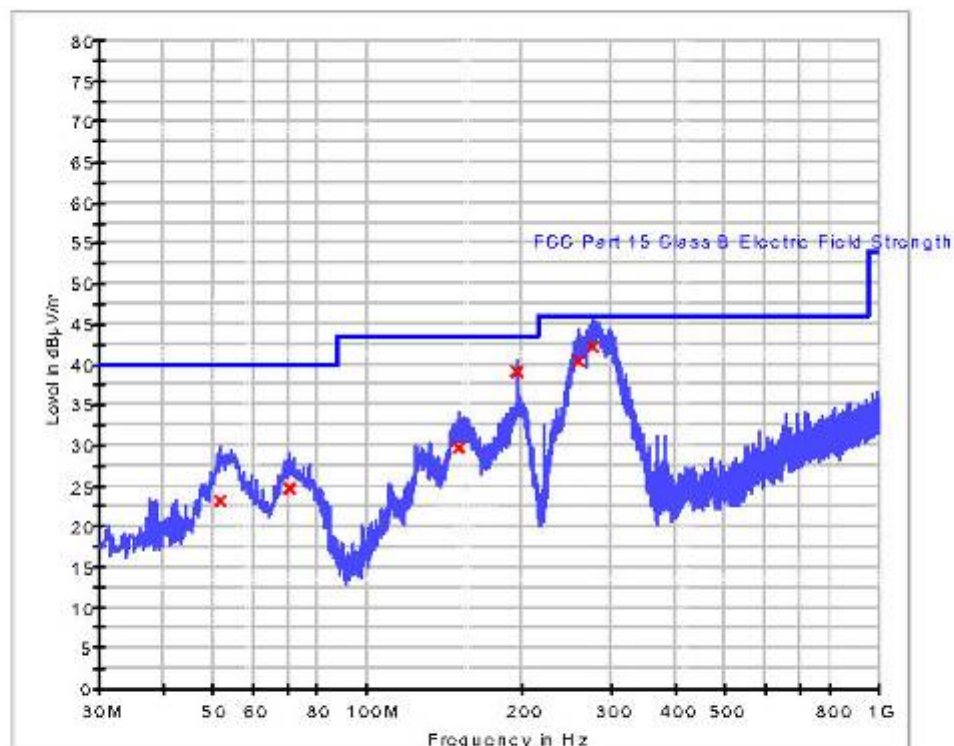
EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:	Seikaku
Test Item:	Mixer
Identification:	LD mixer 102A G3
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(EDR-Mid)
Climate Condition:	21 °C, 51 % _h , 100 kPa
Test Voltage/ Freq:	AC 120V / 60Hz
Receipt No:	174071875
Report No:	/
Result:	Pass
Comment:	Test distance is 3m; Horizontal

Subrange 1	30-1000MHz
Frequency range:	ESCI 3
Receiver:	VULB9168
Transducer:	



Tested by: Jacky Chen Reviewed by: _____
20180113

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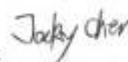
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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)	Comment
51.720000	23.1	1000.0	120.000	H	20.6	16.9	40.0	
70.480000	24.7	1000.0	120.000	H	18.3	15.3	40.0	
150.640000	29.7	1000.0	120.000	H	21.2	13.8	43.5	
156.600000	39.2	1000.0	120.000	H	18.2	4.3	43.5	
258.160000	40.6	1000.0	120.000	H	20.1	5.4	46.0	
275.160000	42.3	1000.0	120.000	H	20.9	3.7	46.0	

Tested by:  Reviewed by: _____
20180113

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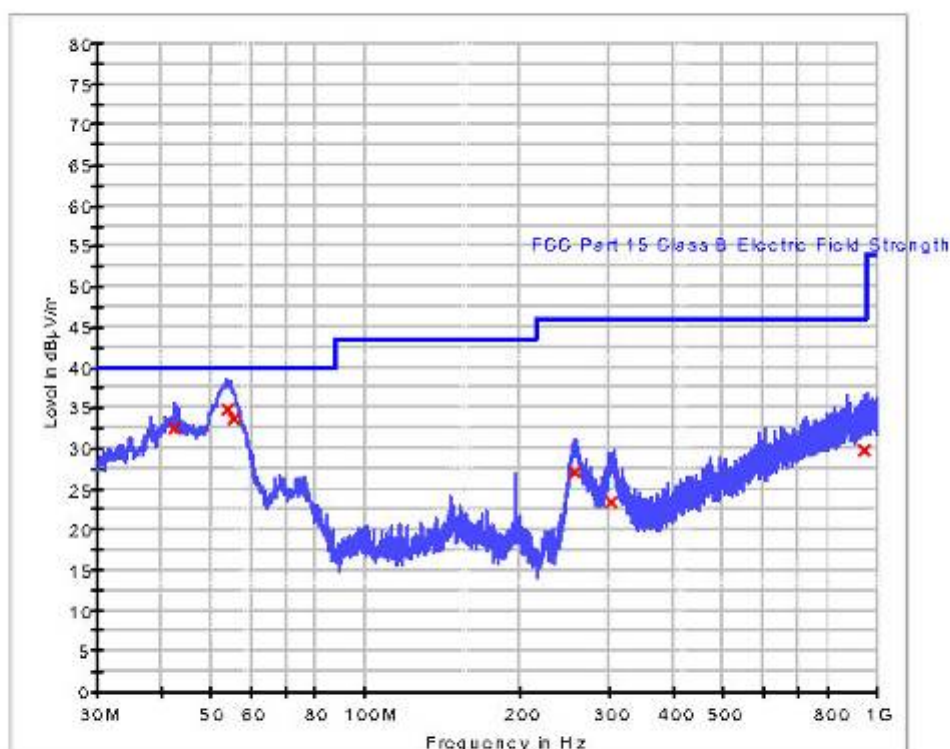
TÜV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:	Seikaku
Test Item:	Mixer
Identification:	LD mixer 102A G3
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(EDR-Mid)
Climate Condition:	21 °C, 51 %, 100 kPa
Test Voltage/ Freq:	AC 120V / 60Hz
Receipt No:	174071875
Report No:	/
Result:	Pass
Comment:	Test distance is 3m, Vertical
Subrange 1	
Frequency range:	30-1000MHz
Receiver:	ESCI 3
Transducer:	VULB9168



Tested by: *Jacky Chen* Reviewed by: _____
20180113

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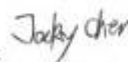
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TÜV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)	Comment
42.480000	32.4	1000.0	120.000	V	20.7	7.6	40.0	
53.880000	34.8	1000.0	120.000	V	20.5	5.2	40.0	
55.000000	33.6	1000.0	120.000	V	20.4	6.4	40.0	
256.120000	27.1	1000.0	120.000	V	20.0	16.9	46.0	
302.680000	23.5	1000.0	120.000	V	21.8	22.6	46.0	
946.640000	29.7	1000.0	120.000	V	35.5	16.3	46.0	

Tested by:  Reviewed by: _____
20180113

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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

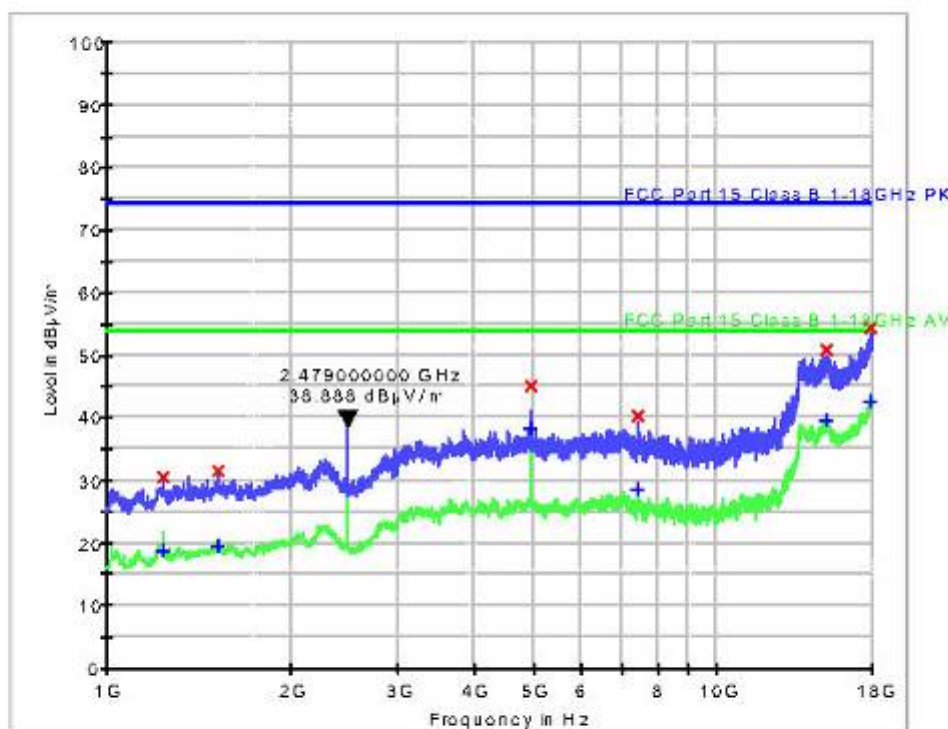
EMC Test Record (Emission)

Common Information

Manufacturer:	Seikaku
Test Item:	Mixer
Identification:	LD mixer 102A G3
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(BDR-High)
Climate Condition:	21 °C, 51 %, 100 kPa
Test Voltage/ Freq:	AC 120V / 60Hz
Receipt No:	174071875
Report No:	/
Result:	Pass
Comment:	Test distance is 3m; Horizontal

Subrange 1	
Frequency Range:	1GHz-18GHz
Receiver:	TUV FSP30
Transducer:	TUV SAC HF907/ TUV FSP30-TUV SAC HF907

EM CTT_EREFO11-A02-07_1GHz-18GHz_With PreAMP EXT& Notch filter



Tested by:

Jacky Chen

Reviewed by: _____

20180113

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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - PK+ (dB)	Limit - PK+ (dBµV/m)	Comment
1240.000000	30.5	1000.0	1000.000	H	-19.0	49.5	74.0	
1527.000000	31.6	1000.0	1000.000	H	-17.8	42.4	74.0	
4959.000000	45.0	1000.0	1000.000	H	-7.7	29.0	74.0	
7441.000000	40.3	1000.0	1000.000	H	-5.2	33.7	74.0	
15174.000000	51.0	1000.0	1000.000	H	5.7	23.0	74.0	
17896.000000	54.5	1000.0	1000.000	H	10.0	19.5	74.0	

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - AV G (dB)	Limit - AV G (dBµV/m)	Comment
1240.000000	18.6	1000.0	1000.000	H	-19.0	35.5	54.0	
1527.000000	19.4	1000.0	1000.000	H	-17.8	34.6	54.0	
4959.000000	38.3	1000.0	1000.000	H	-7.7	15.7	54.0	
7441.000000	28.5	1000.0	1000.000	H	-5.2	25.5	54.0	
15174.000000	39.5	1000.0	1000.000	H	5.7	14.5	54.0	
17896.000000	42.6	1000.0	1000.000	H	10.0	11.5	54.0	

Tested by: *Jacky Chen* Reviewed by: _____
20180113

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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

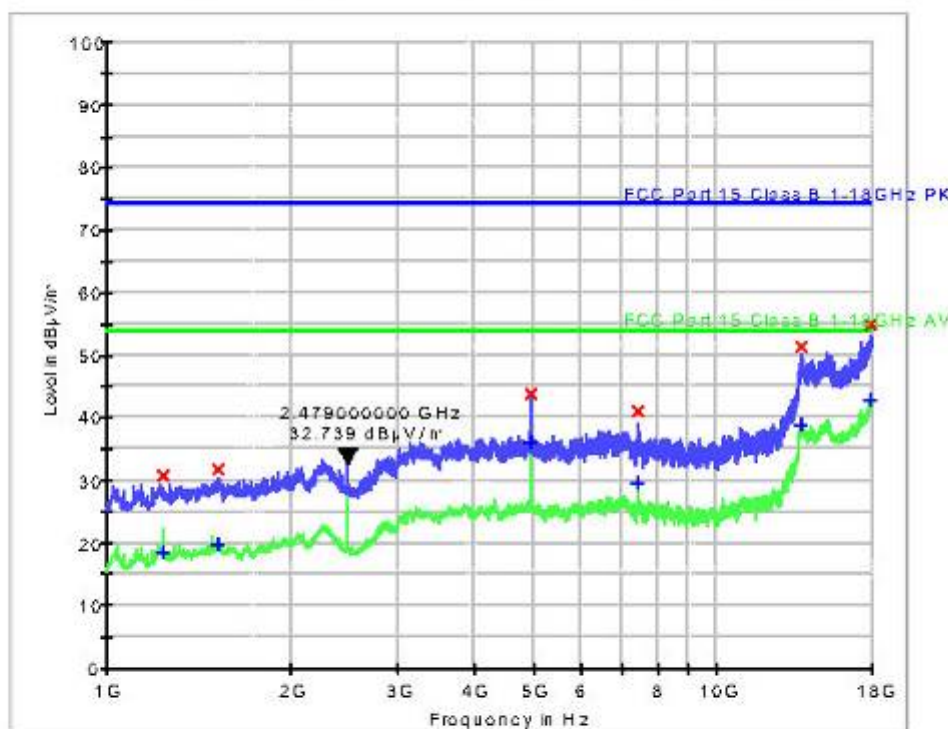
EMC Test Record (Emission)

Common Information

Manufacturer:	Seikaku
Test Item:	Mixer
Identification:	LD mixer 102A G3
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(BDR-High)
Climate Condition:	21 °C, 51 %, 100 kPa
Test Voltage/ Freq:	AC 120V / 60Hz
Receipt No:	174071875
Report No:	/
Result:	Pass
Comment:	Test distance is 3m, Vertical

Subrange 1	
Frequency Range:	1GHz-18GHz
Receiver:	TUV FSP30
Transducer:	TUV SAC HF907/ TUV FSP30-TUV SAC HF907

EM CTT_EREFO11-A02-07_1GHz-18GHz_With PreAMP EXT& Notch filter



Tested by:

Jacky Chen

Reviewed by: _____

20180113