

Appendix B: Test Results

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Appendix B.1: Measurement Equipment List

Measurement Equipment List



Testing Start Date 24.05.2019
Testing end date 28.05.2019

Project Manager Storm Shu
Cost Center 144
Test Report Number 50257039 001
Order Item Number 0170107513A00200

Customer INNOVATIVE TECHNOLOGY ELECTRONICS LLC
Product Name RADIO CASSETTE RECORDER
Comment

Page 1 of 1

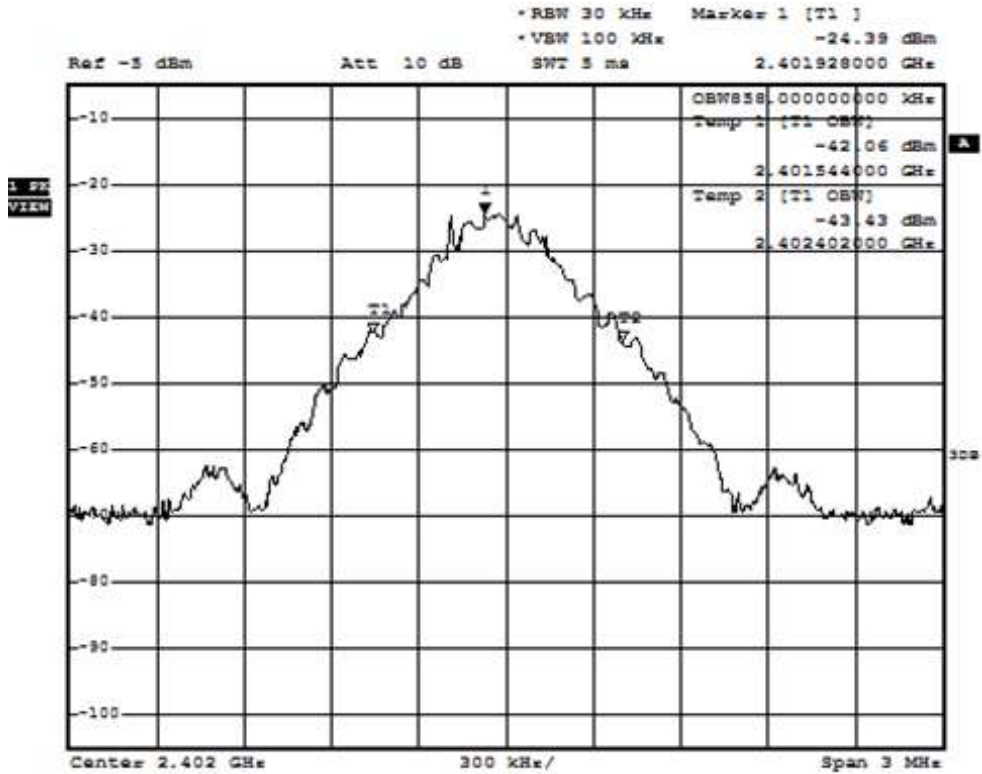
Old ID	Equip.	Description	Model	Manufacturer	Inte. (mon)	Due Date DD.MM.YYYY
1.887	1813944	EMI Test Receiver	ESCI	Rohde & Schwarz	12	15.03.2020
1.886	1813943	Two-Line V-Network	ENV216	Rohde & Schwarz	12	24.05.2020
1.807	1813832	EMI Test Receiver	ESCI	Rohde & Schwarz	12	14.03.2020
1.805	1813829	FSP30 Spectrum Analyzer	FSP30	Rohde & Schwarz	12	22.08.2019
1.921B	1814142	Trilog Broadband Antenna	VULB9168(6dB)	SCHWARZBECK	24	20.09.2019
1.822	1813850	Loop Antenna	HFH2-Z2	Rohde & Schwarz	24	15.03.2021
1.889C	1814199	Double-Ridged Horn Antenna	HF907(3s)	Rohde & Schwarz	24	23.10.2020
1.808	1813833	Horn Antenna	3160-09	EMCO	60	19.01.2024
1.819C	1814068	Pre-Amplifier	A44-00101800-25-10P-	MITEQ	12	08.05.2020
1.819A	1813846	Band Reject Filter	BRM50702	Micro-Tronics	24	04.07.2020
1.808A	1813834	Pre-Amplifier	A33-18002650-30-8P-4	MITEQ	24	20.07.2019
1.666	1813697	SAC	N/A	Albatross Project	36	27.11.2021
1.913	1814012	Shielding Room	9x4x3.4	Changzhou Yuanping	60	08.12.2020

* No entry for devices that are not subject to regular calibration
or require initial verification/calibration only.

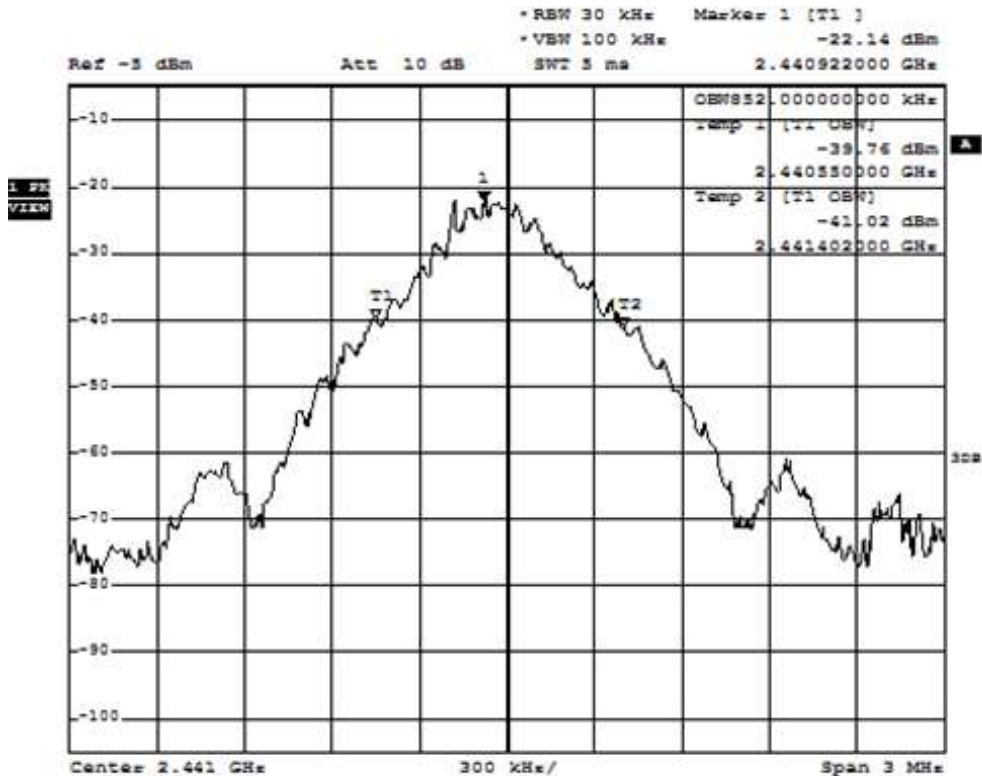
Signature: 

Appendix B.2: 99% Bandwidth

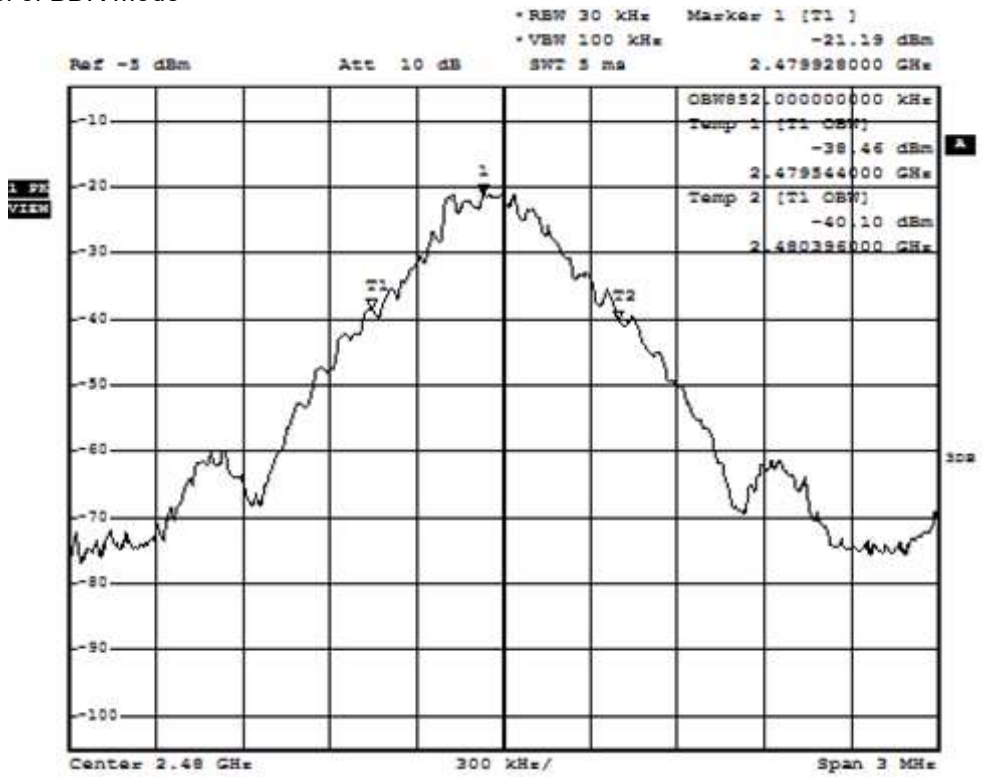
Low Channel of BDR mode



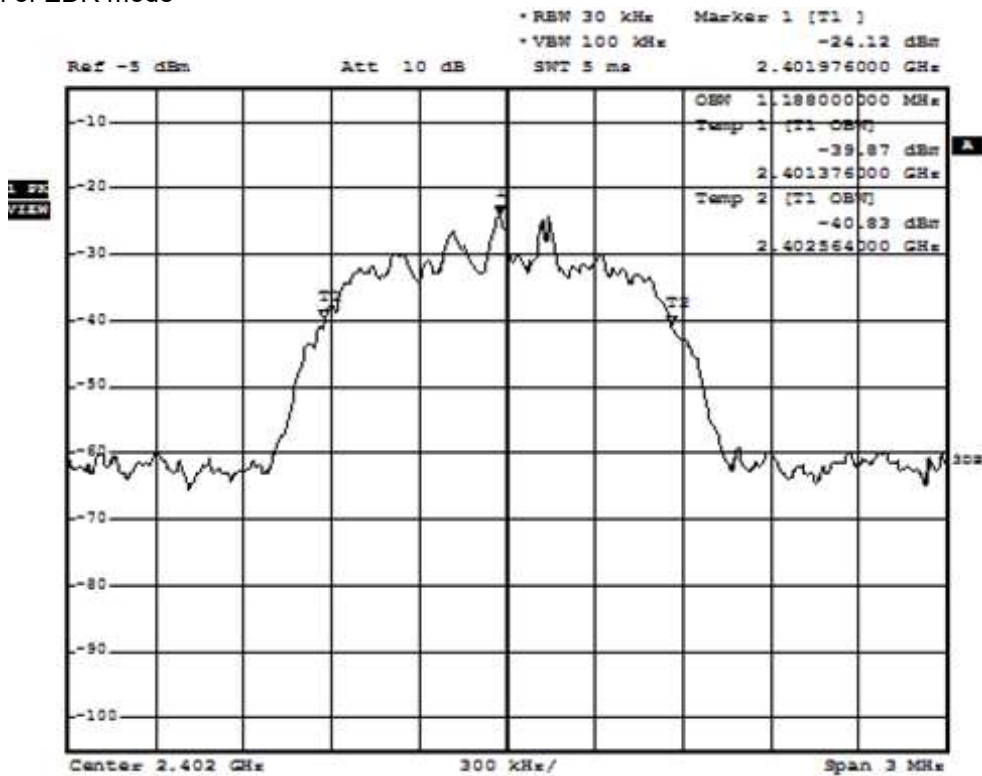
Middle Channel of BDR mode



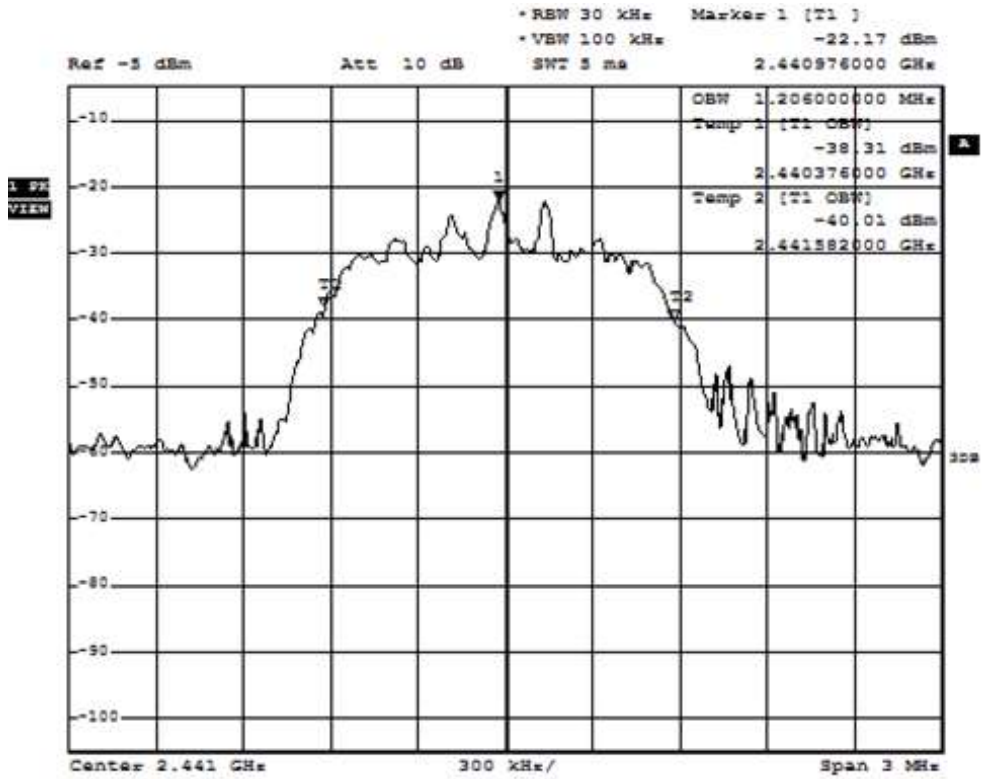
High Channel of BDR mode



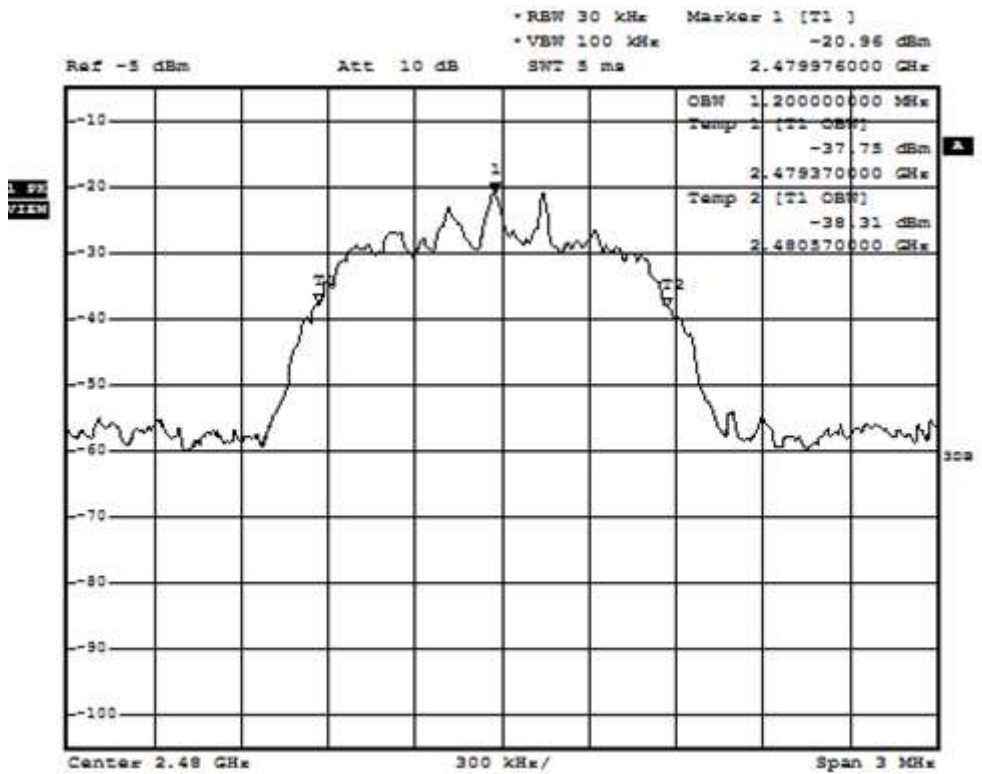
Low Channel of EDR mode



Middle Channel of EDR mode

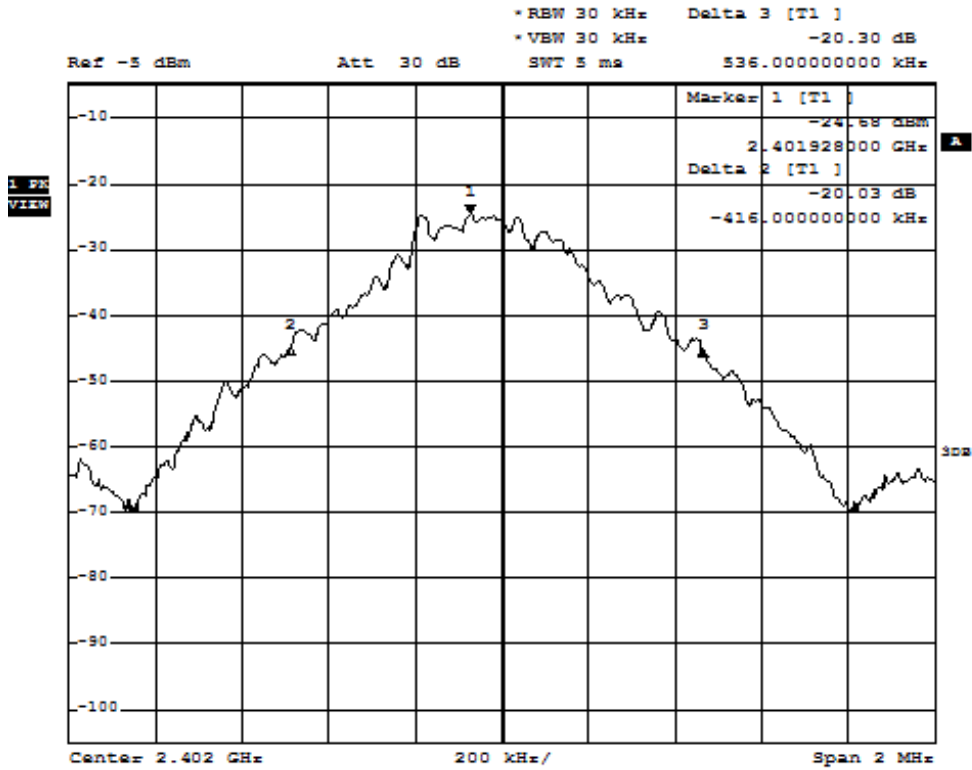


High Channel of EDR mode

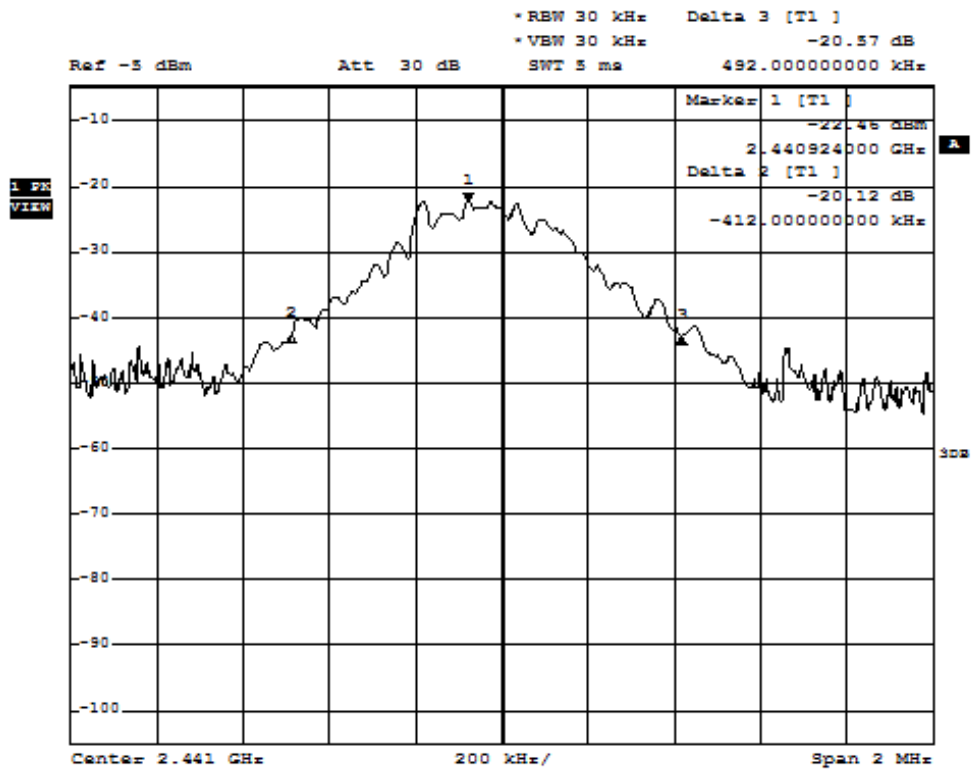


Appendix B.3: 20dB Bandwidth

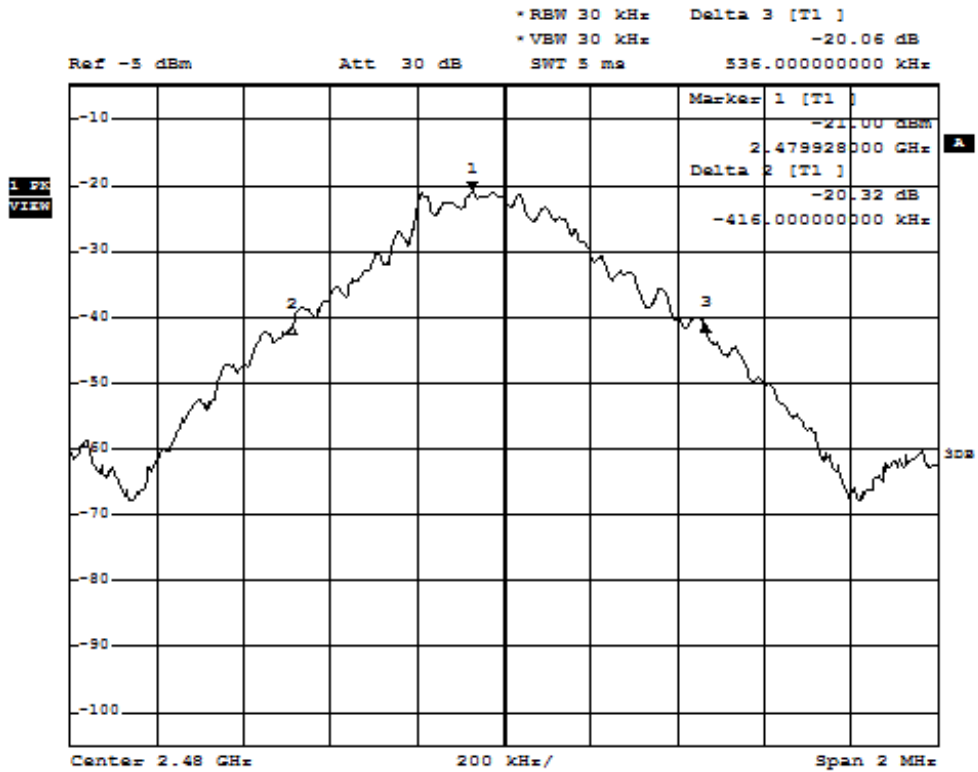
Low Channel of BDR mode



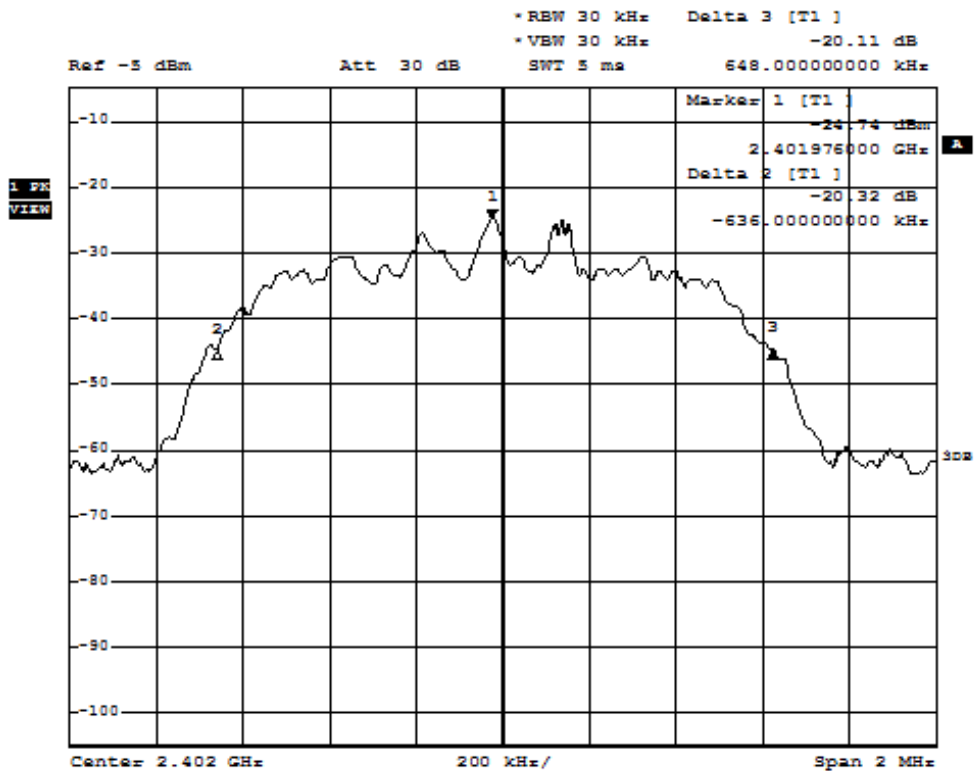
Middle Channel of BDR mode



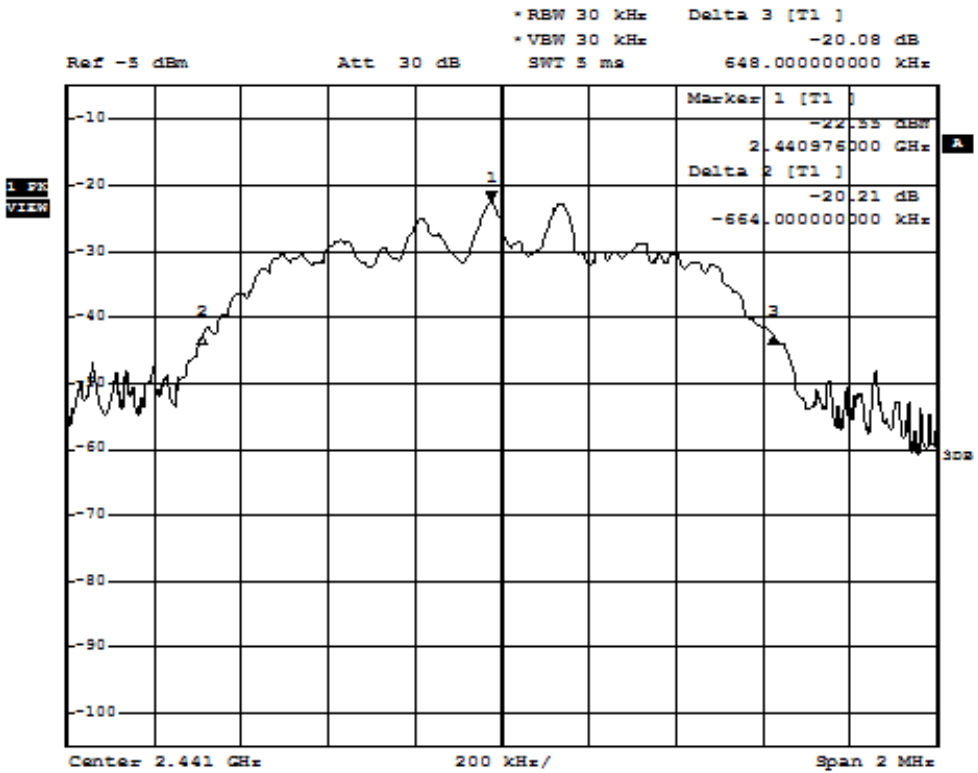
High Channel of BDR mode



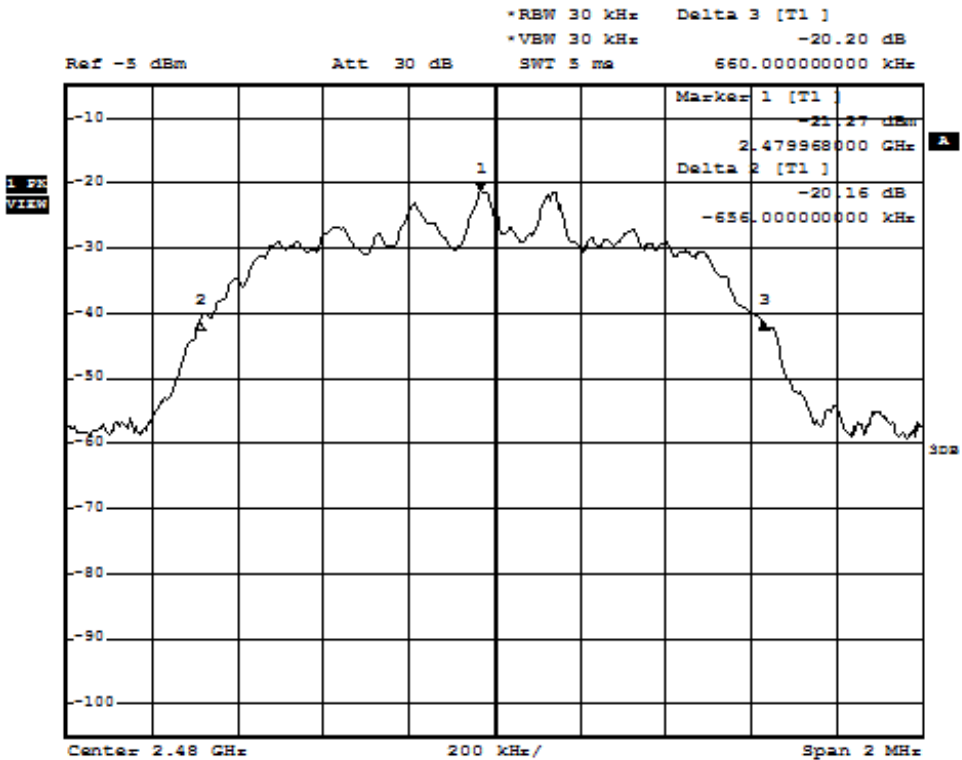
Low Channel of EDR mode



Middle Channel of EDR mode

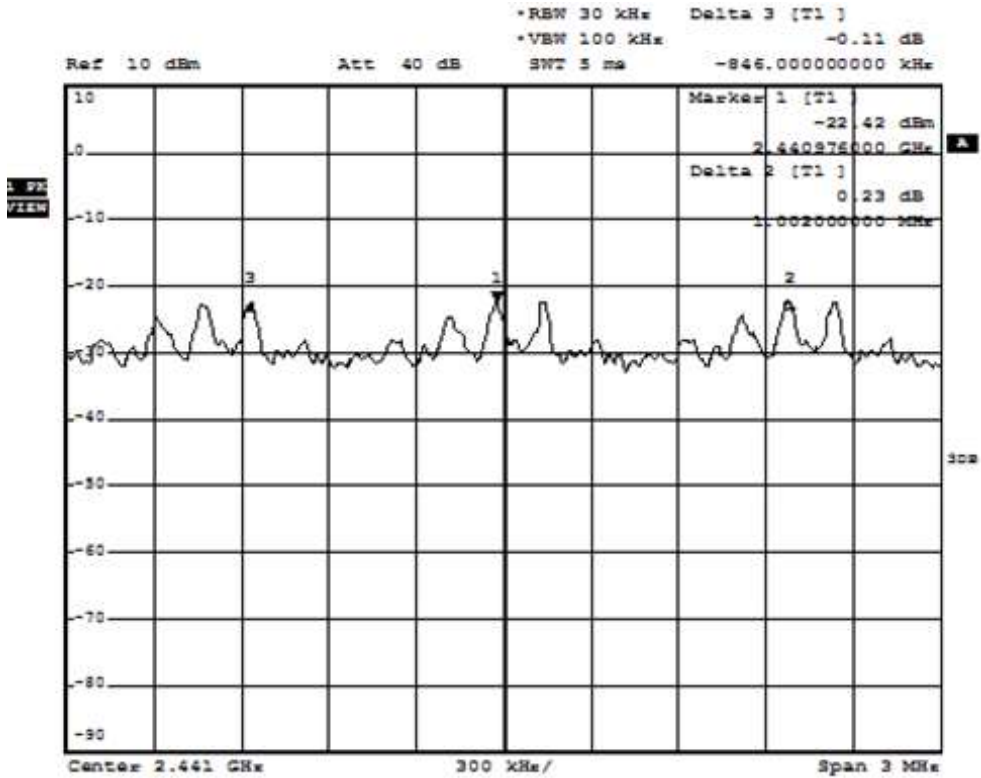


High Channel of EDR mode



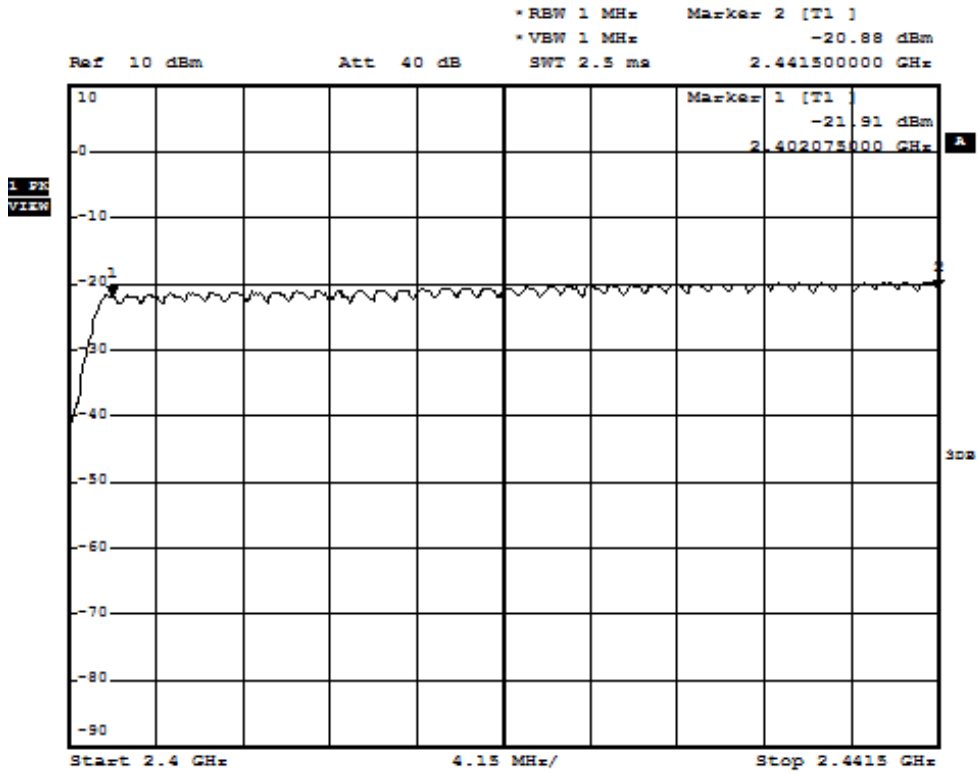
Appendix B.4: Carrier Frequency Separation

Worst Case (EDR)

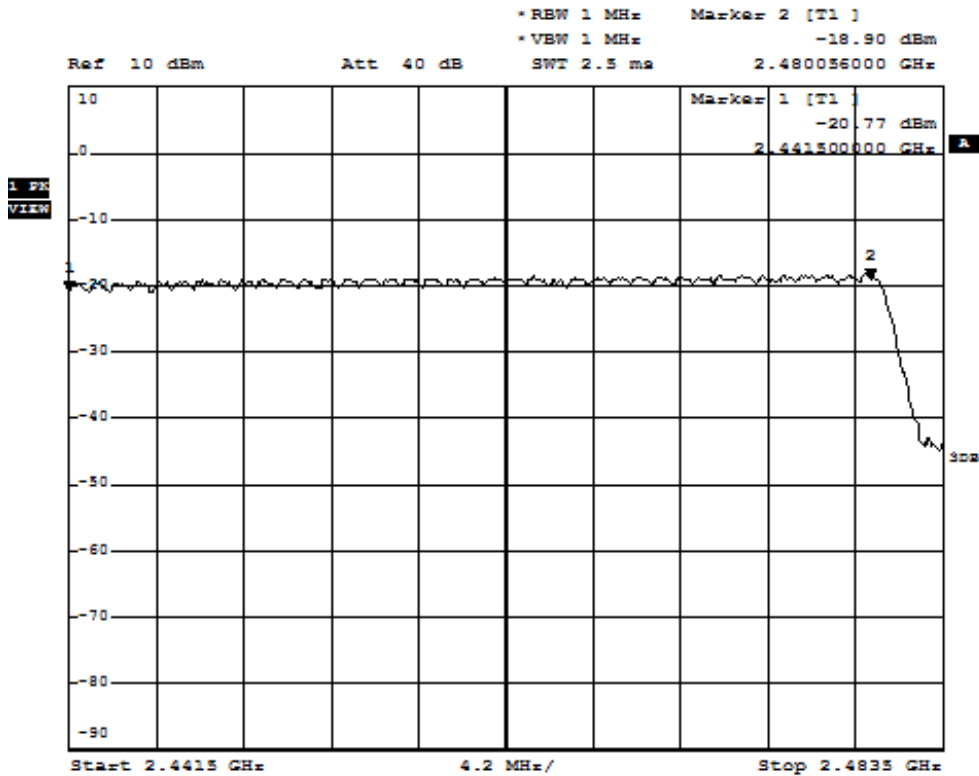


Appendix B.5: Number of Hopping Frequency

BDR mode

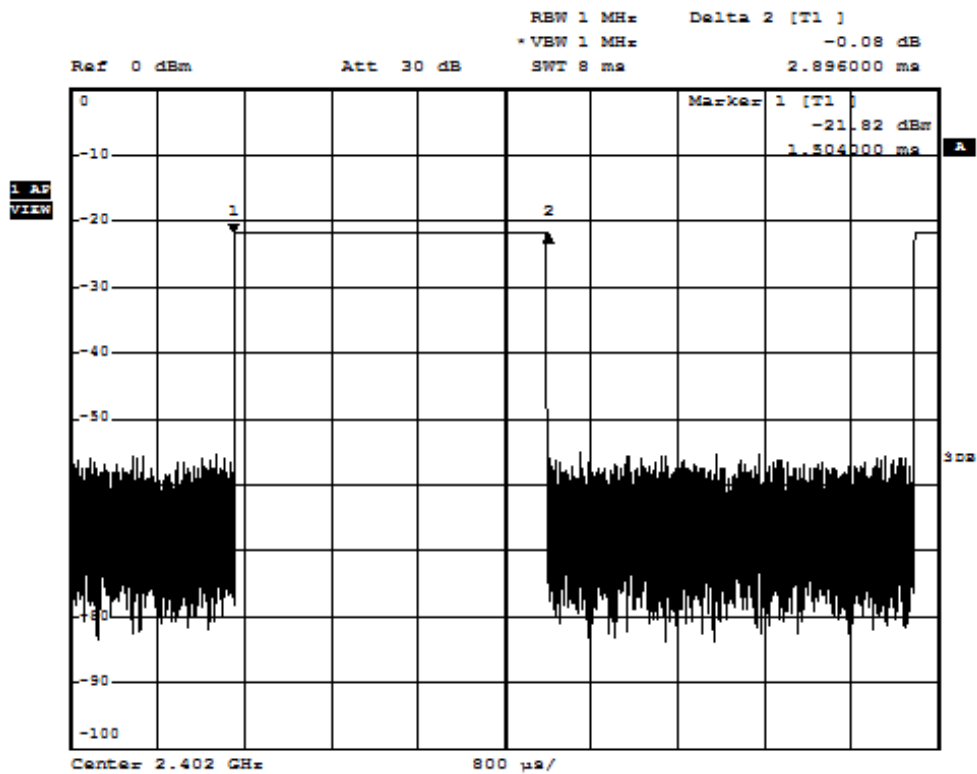
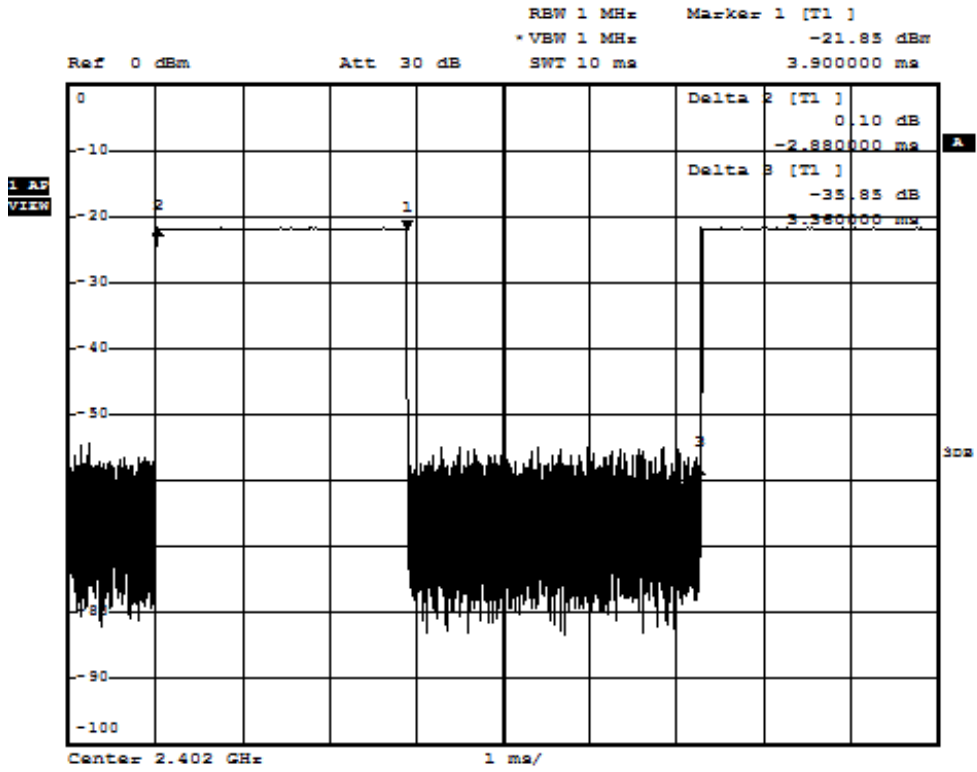


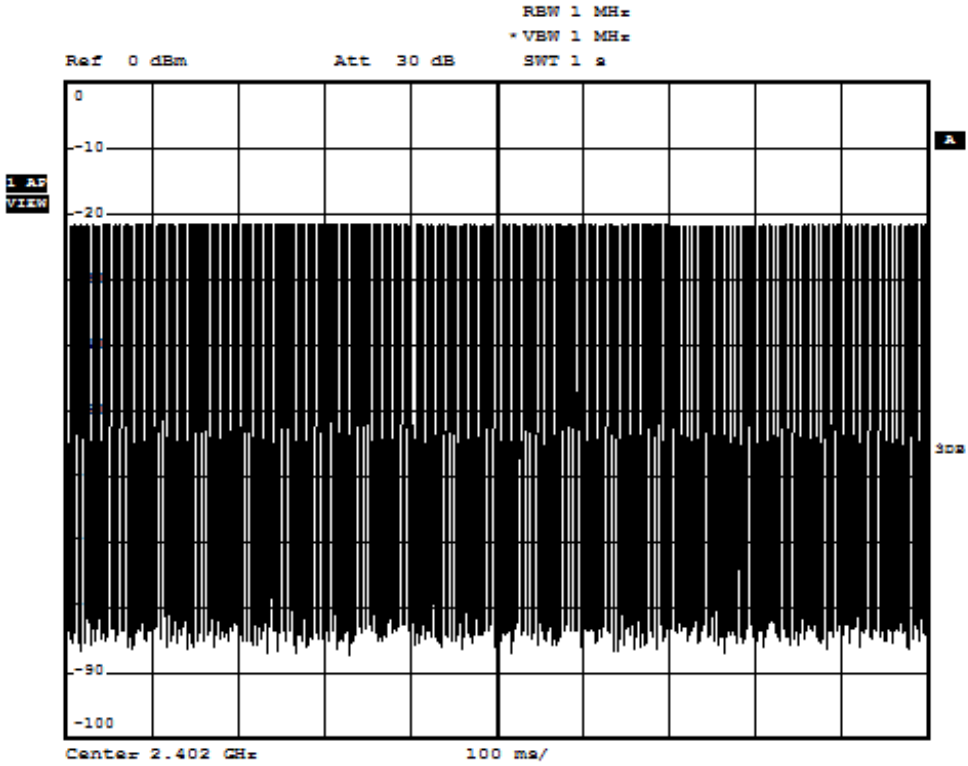
EDR mode



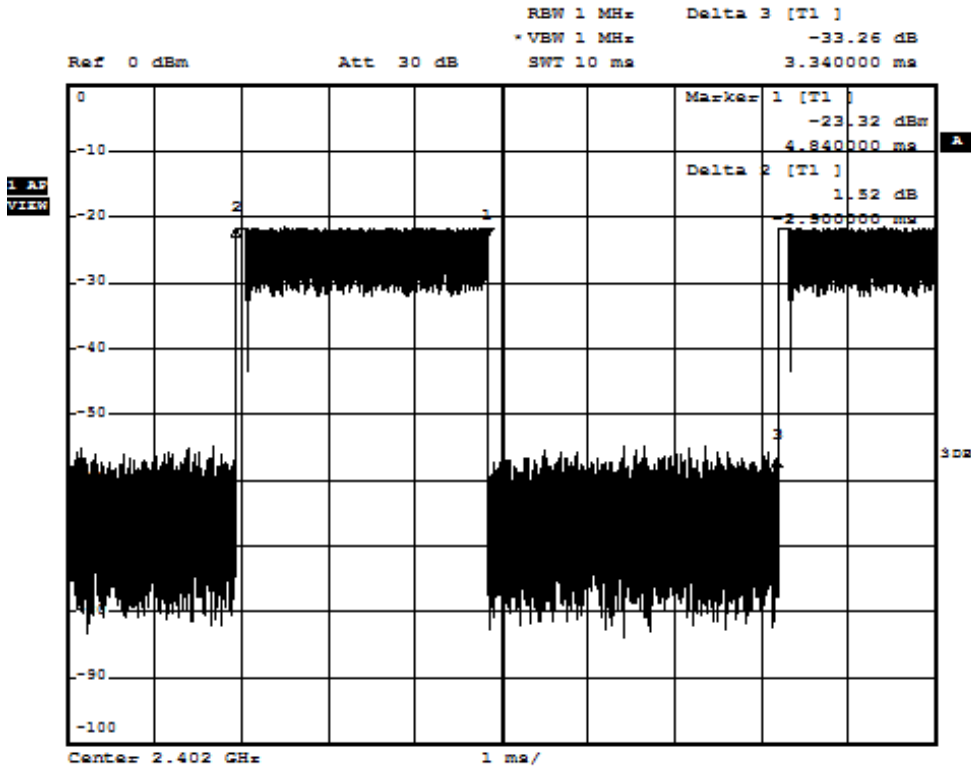
Appendix B.6: Time of Occupancy

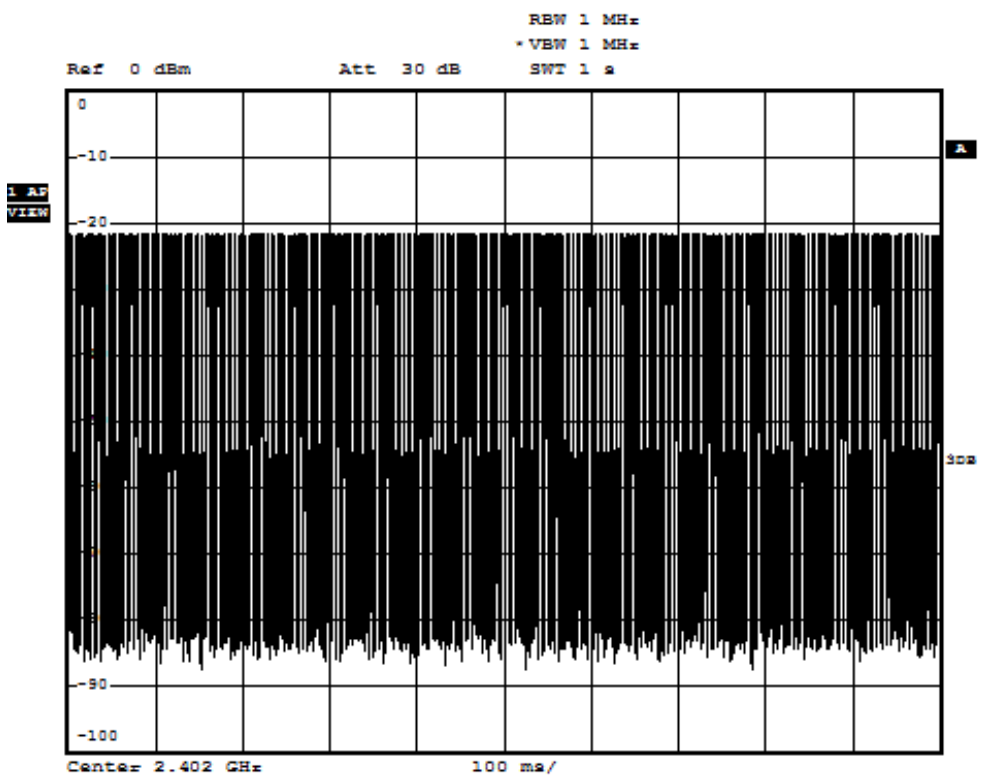
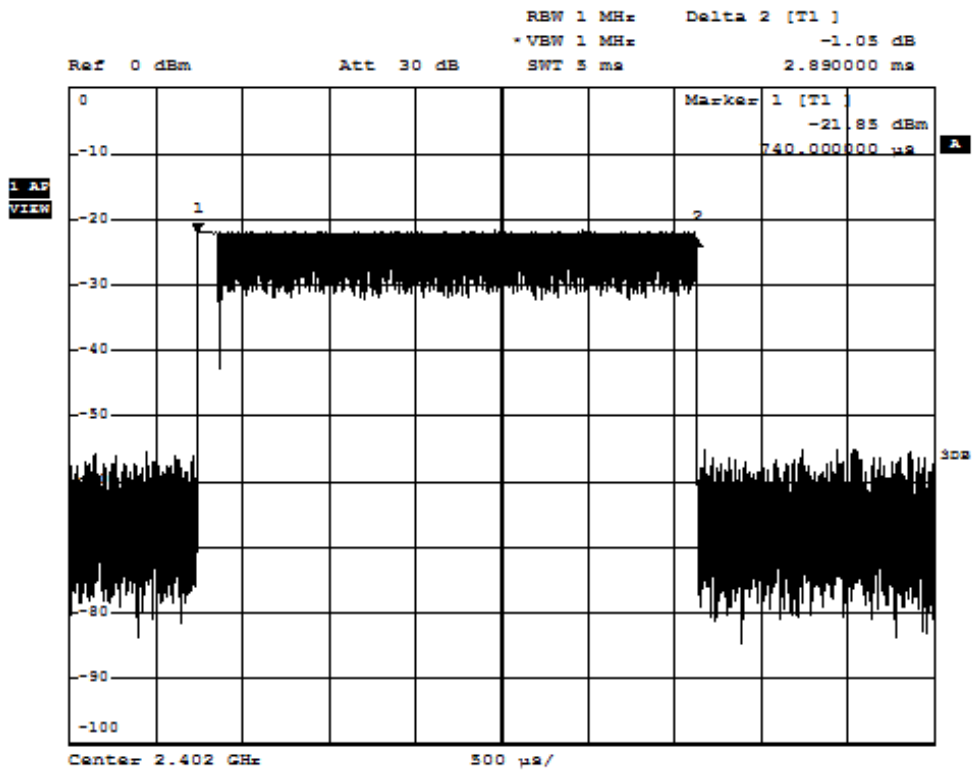
BDR mode





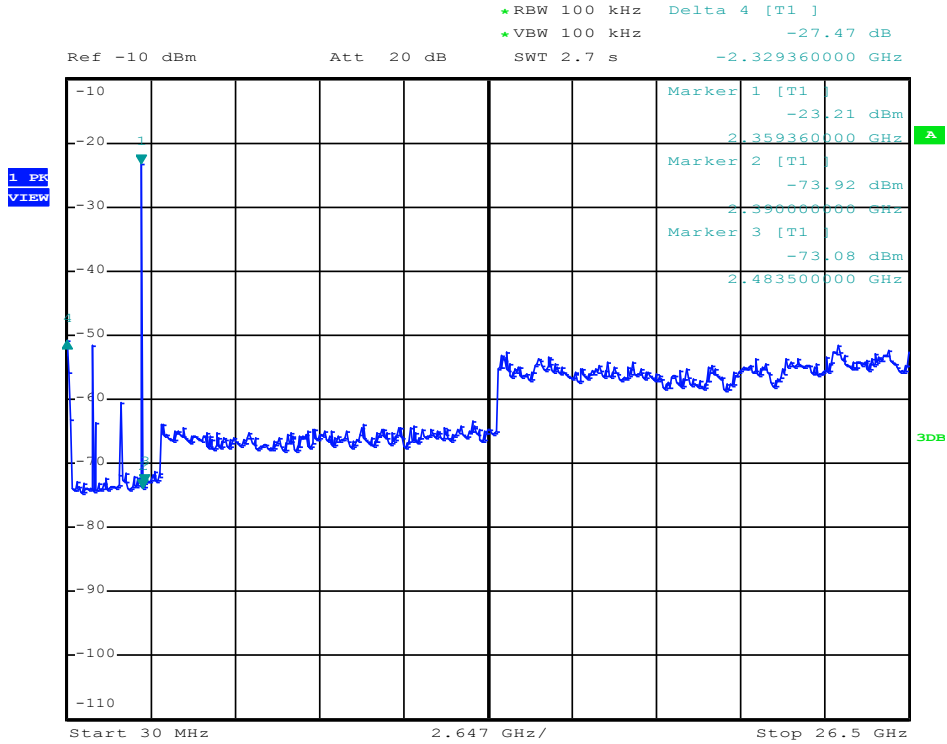
EDR mode



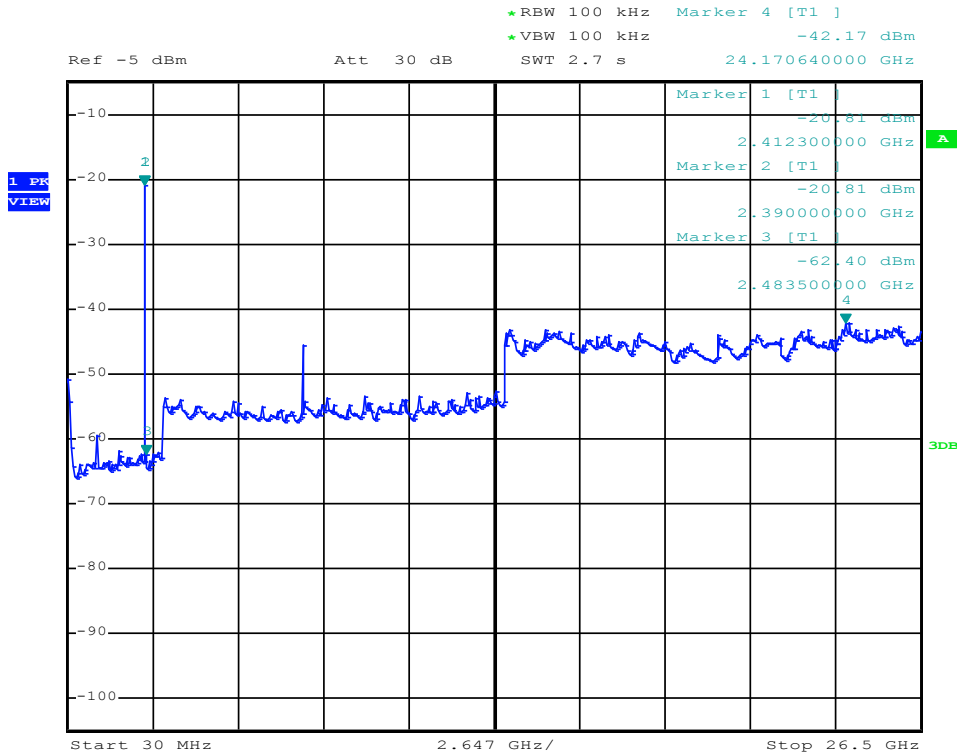


Appendix B.7: Conducted Spurious Emissions Measured in 100 kHz Bandwidth

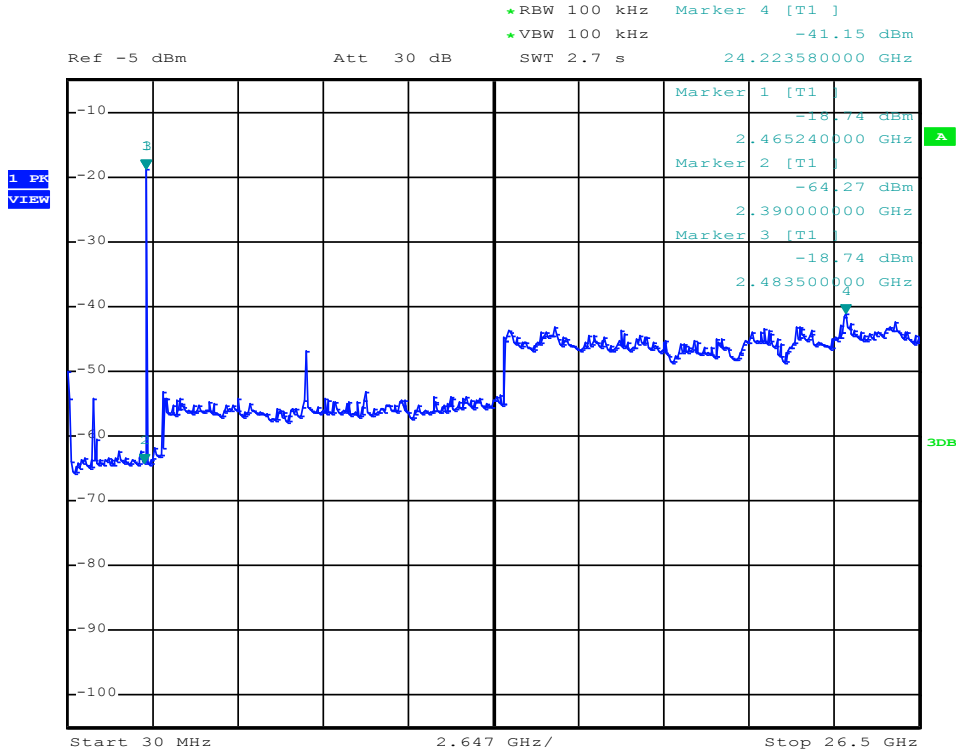
Low Channel of BDR mode



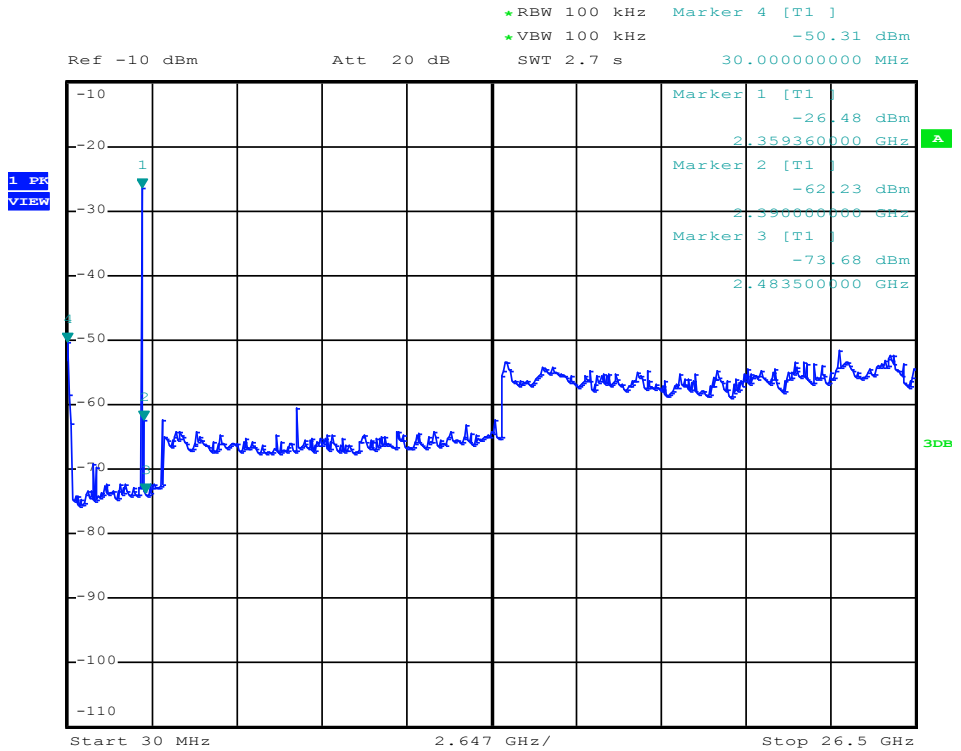
Middle Channel of BDR mode



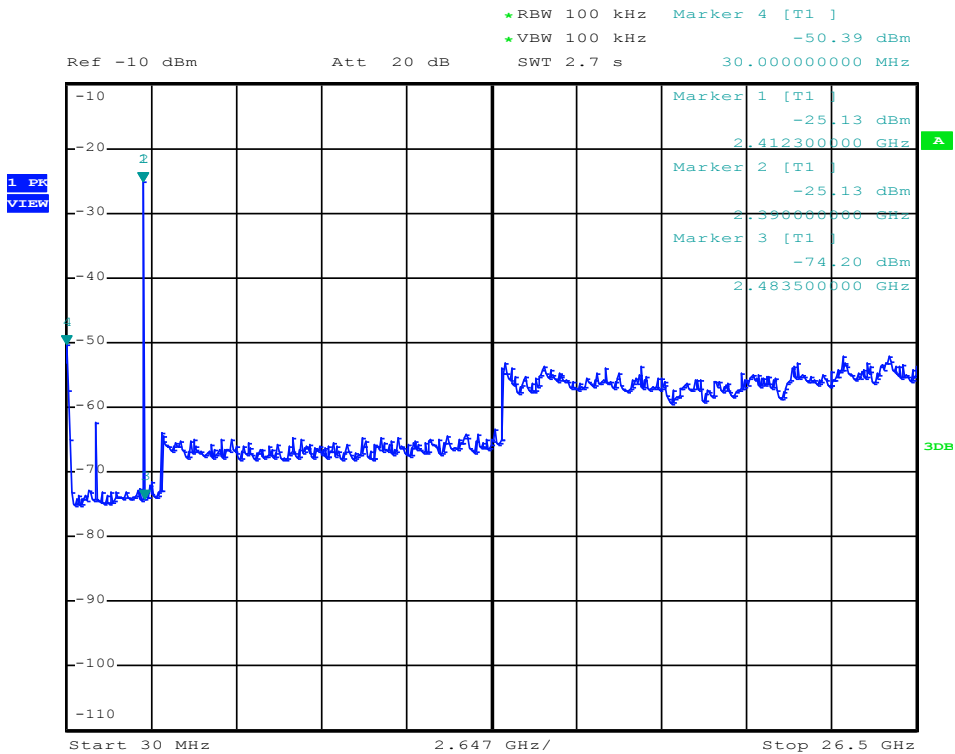
High Channel of BDR mode



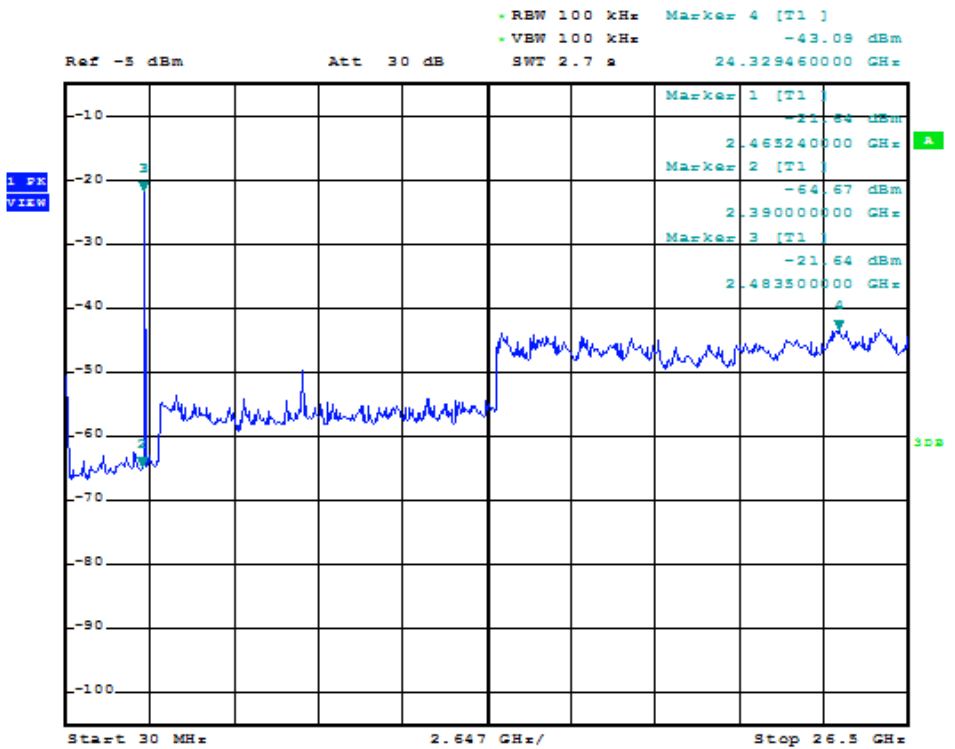
Low Channel of EDR mode



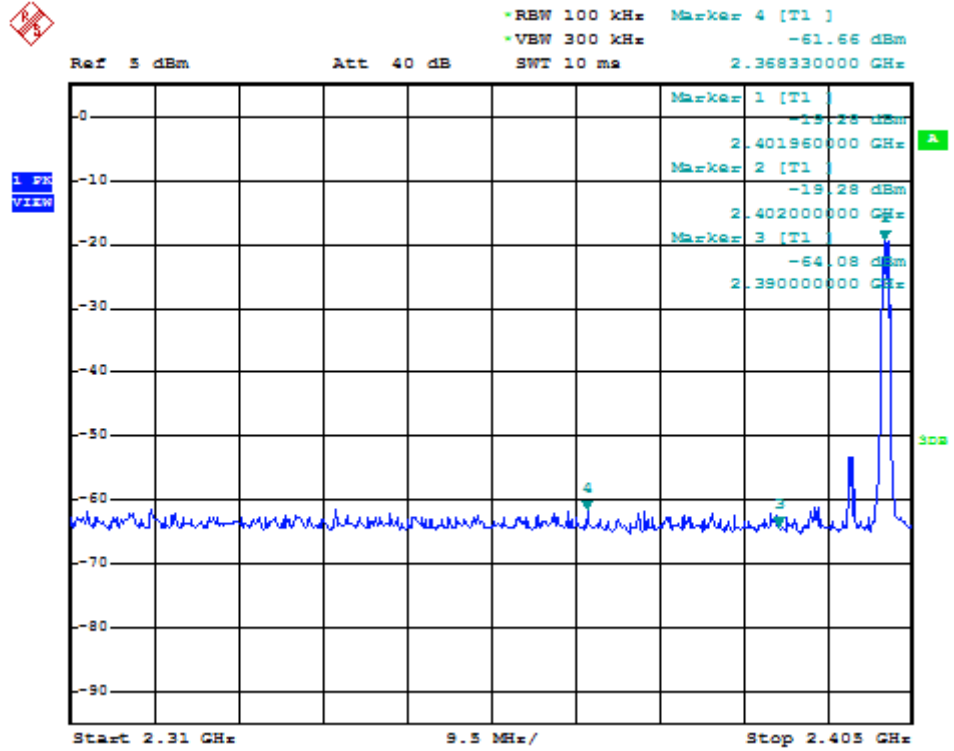
Middle Channel of EDR mode



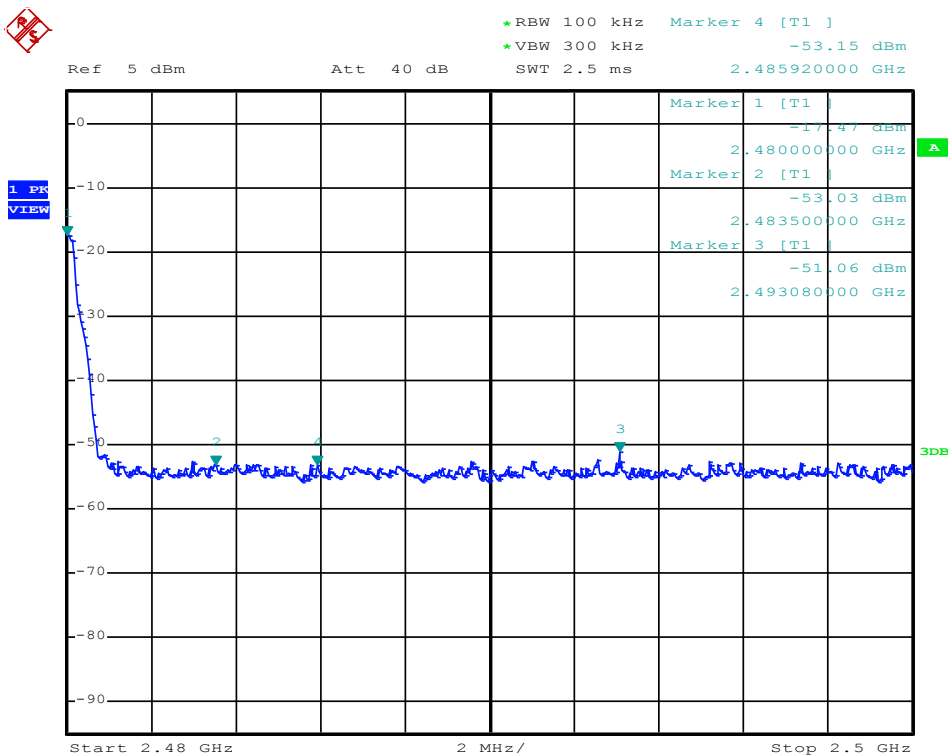
High Channel of EDR mode



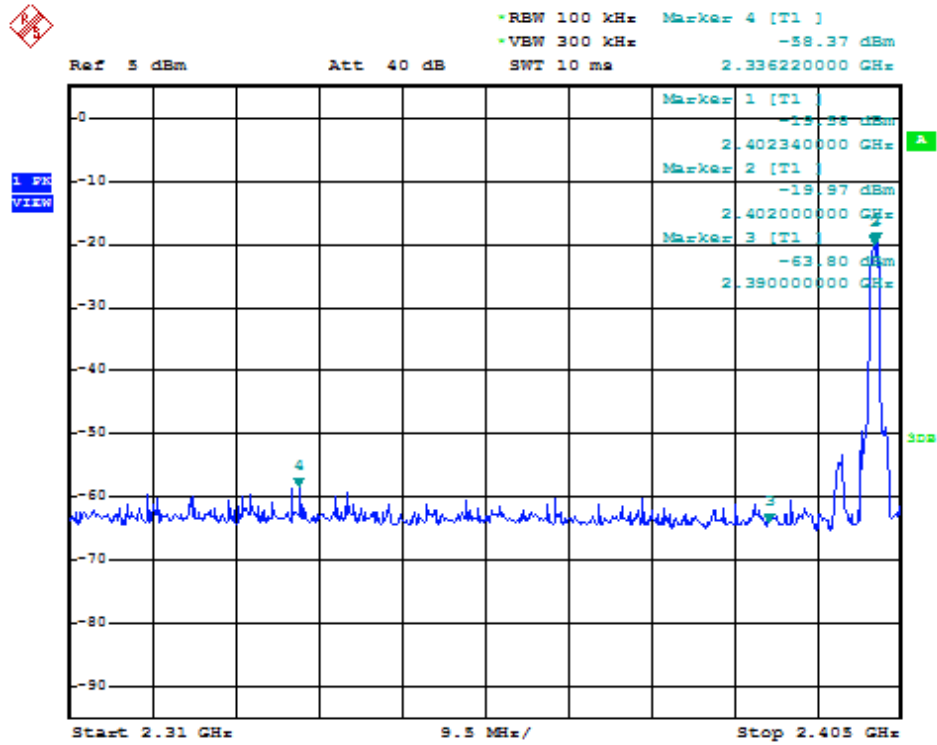
Band Edge, Low Channel of BDR mode



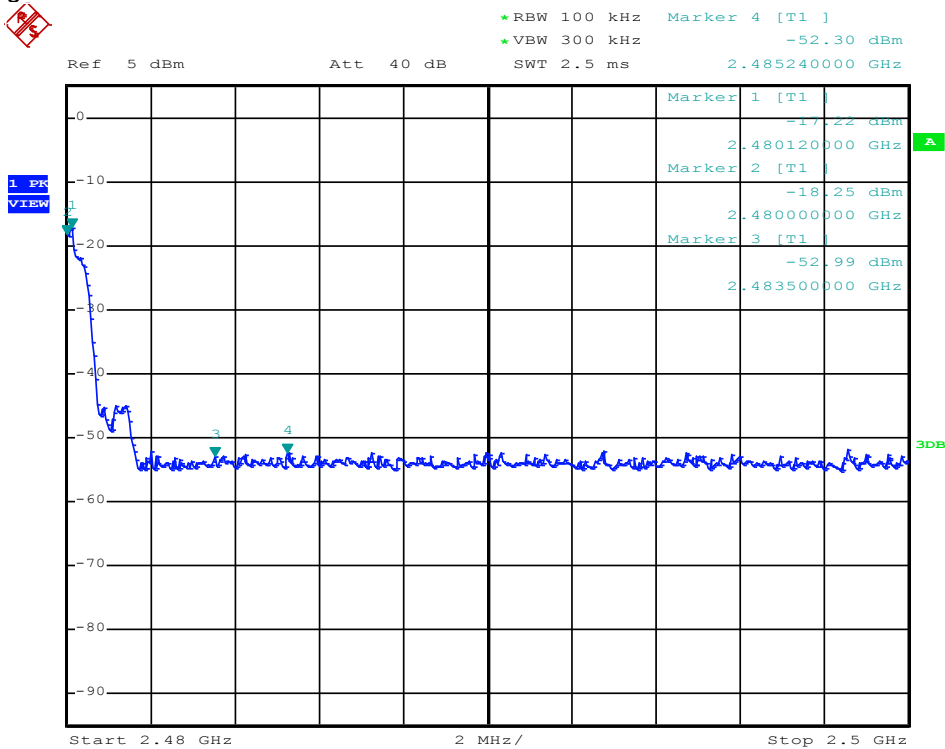
Band Edge, High Channel of BDR mode



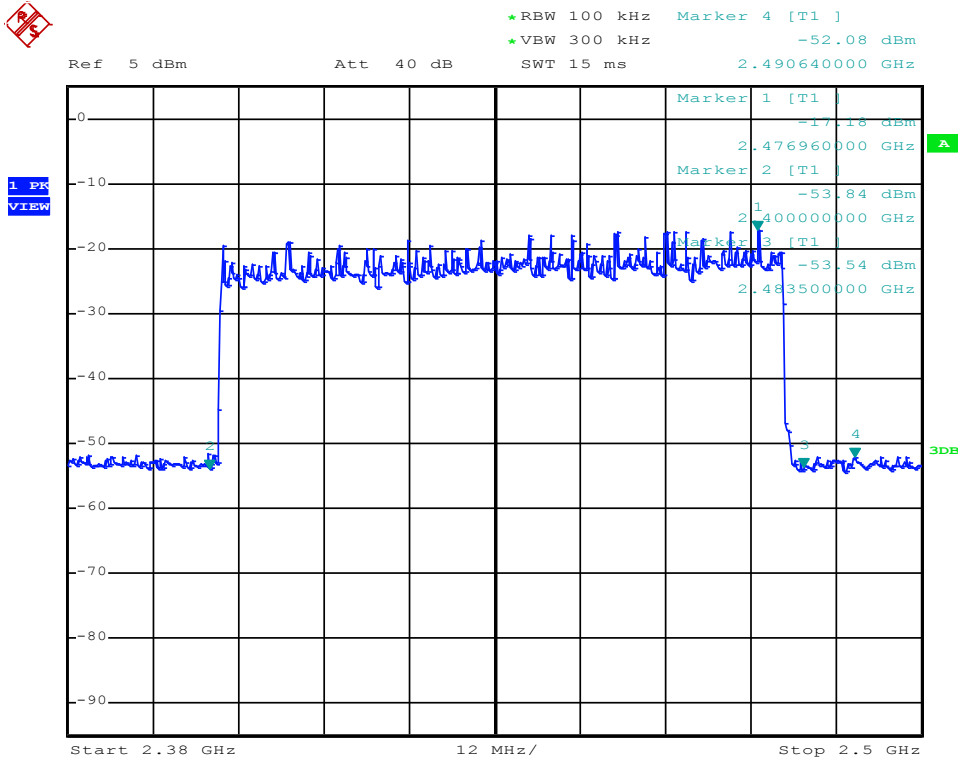
Band Edge, Low Channel of EDR mode



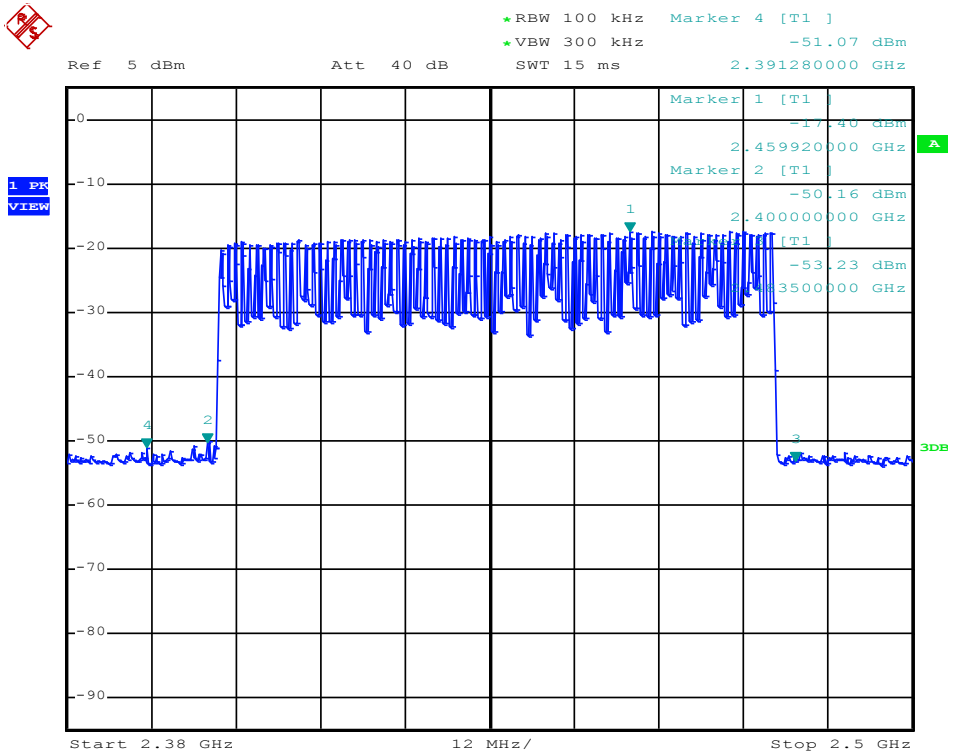
Band Edge, High Channel of EDR mode



Band Edge of BDR hopping mode



Band Edge of EDR hopping mode



Note: Testing was carried out within frequency range 9kHz to the tenth harmonics. The measurement results below 30MHz and 18GHz -26.5GHz were greater than 20dB below the limit, so only the radiated spurious emissions from 30MHz to 18GHz were reported.

Appendix B.8: Test Results of Radiated Spurious Emissions

30MHz - 1GHz

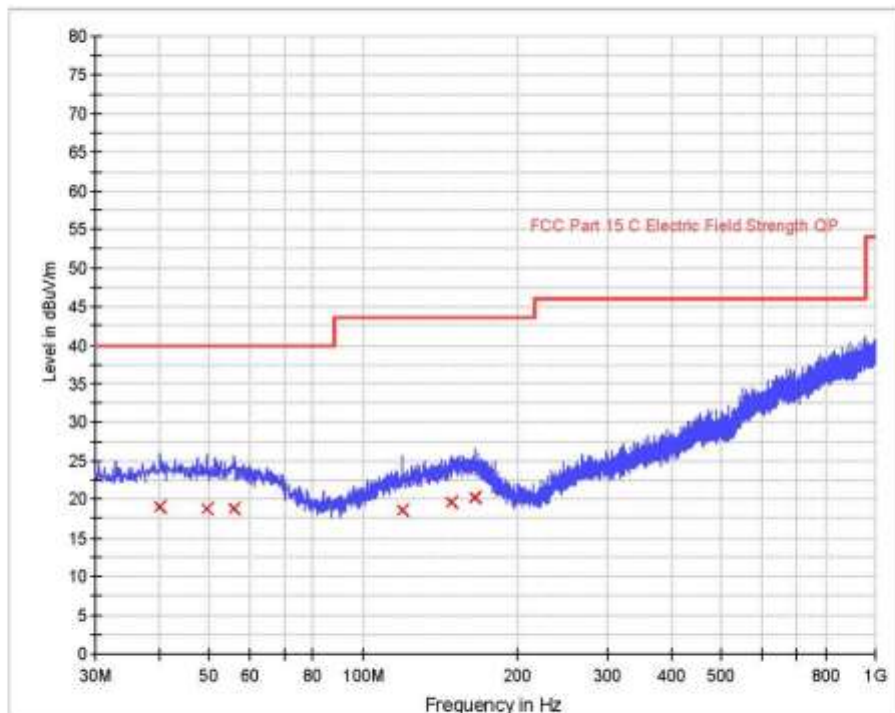
TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:	
Test Item:	Radio cassette recorder
Identification:	VBB-25
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(1DH5-Mid)
Climate Condition:	20 °C, 50 %, 100 k Pa
Test Voltage/ Freq:	AC 120V / 60 Hz
Receipt No:	170107513
Report No:	/
Result:	Pass
Comment:	Test distance is 3m, Horizontal
Subrange 1	
Frequency range:	30-1000MHz
Receiver:	ESCI 3
Transducer:	VULB9168



Tested by: Jason Wu

Reviewed by: Jacky Chen

20190524

20190527

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EMC Test Service Hotline: +86-20-28391188

Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dBuV/m)	Comment
40.200000	19.1	1000.0	120.000	H	20.6	20.9	40.0	
49.520000	18.9	1000.0	120.000	H	20.6	21.1	40.0	
56.080000	18.8	1000.0	120.000	H	20.2	21.2	40.0	
119.600000	18.7	1000.0	120.000	H	19.1	24.8	43.5	
149.200000	19.7	1000.0	120.000	H	21.1	23.8	43.5	
165.680000	20.3	1000.0	120.000	H	21.1	23.3	43.5	

Tested by: Jason Wu

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Reviewed by: Jacky Chen

20190527

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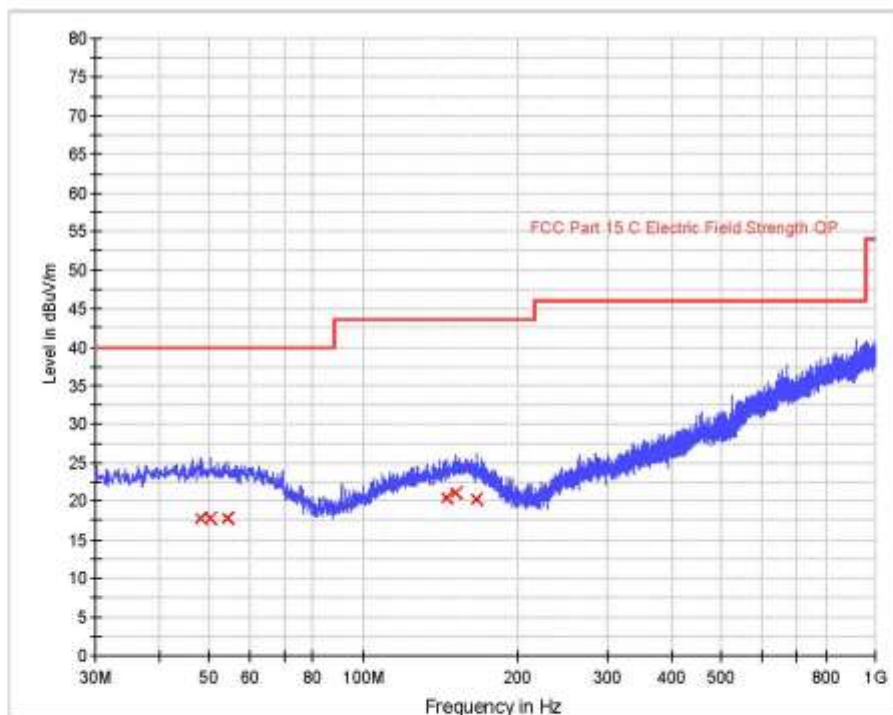
EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:
Test Item: Radio cassette recorder
Identification: VBB-25
Test Standard: FCC Part 15
Test Detail: Radiated Emission
Operation Mode: Transmitting(1DH5-Mid)
Climate Condition: 20 °C, 50 %, 100 k Pa
Test Voltage/ Freq: AC 120V / 60 Hz
Receipt No: 170107513
Report No: /
Result: Pass
Comment: Test distance is 3m, Vertical

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



Tested by: Jason Wu

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Reviewed by: Jacky Chen

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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Poi	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dBuV/m)	Comment
48.320000	17.8	1000.0	120.000	V	20.6	22.2	40.0	
50.360000	17.9	1000.0	120.000	V	20.6	22.1	40.0	
54.360000	17.9	1000.0	120.000	V	20.3	22.1	40.0	
145.800000	20.5	1000.0	120.000	V	20.8	23.0	43.5	
152.360000	21.0	1000.0	120.000	V	21.2	22.5	43.5	
167.120000	20.2	1000.0	120.000	V	21.1	23.3	43.5	

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20190524

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1GHz - 18GHz

Note: The measurement results 2402-2483.5MHz was exclusion band, when Band Reject Filter used. So only the radiated spurious emissions of out this exclusion band were evaluated.

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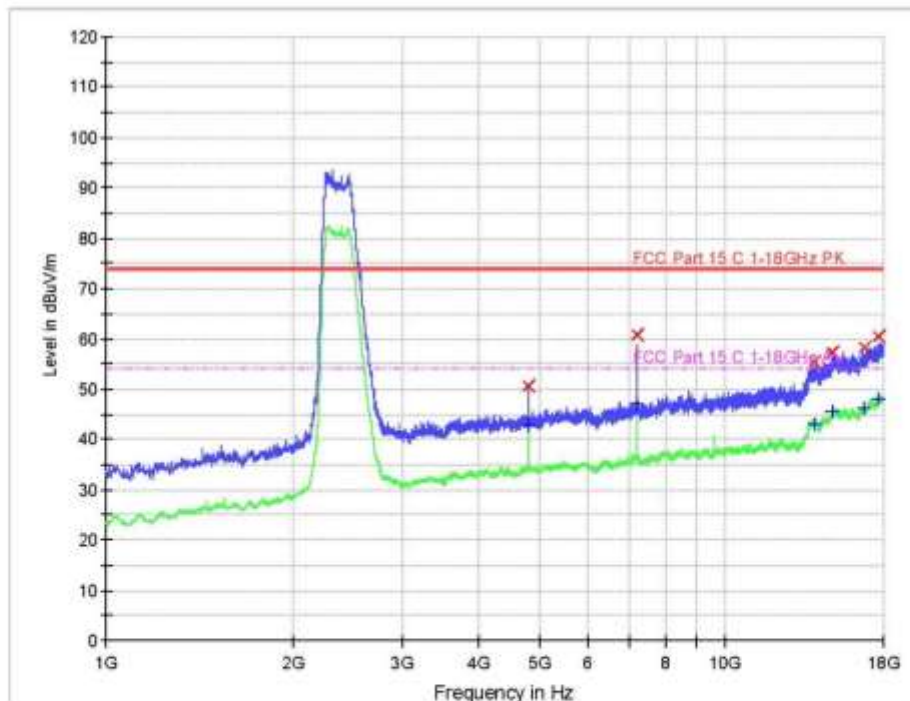
EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:	
Test Item:	Radio cassette recorder
Identification:	VBB-25
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(1DH5-Low)
Climate Condition:	20 °C, 50 %, 100 k Pa
Test Voltage/ Freq:	AC 120V / 60 Hz
Receipt No:	170107513
Report No:	/
Result:	Pass
Comment:	Horizontal
Subrange 1	
Frequency Range:	1GHz-18GHz
Receiver:	TUV FSP30
Transducer:	TUV SAC HF907/TUV FSP30-TUV SAC HF907

EMCTT_EREFO11-A02-07_1GHz-18GHz_With PreAMP EXT& Notch filter



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EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

Frequency (MHz)	MaxPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)
4804.000000	50.6	1000.0	1000.000	H	-4.7	23.5	74.0
7205.000000	60.8	1000.0	1000.000	H	-1.1	13.2	74.0
13901.000000	55.4	1000.0	1000.000	H	5.6	18.6	74.0
14900.000000	57.3	1000.0	1000.000	H	6.9	16.7	74.0
16784.000000	58.3	1000.0	1000.000	H	10.3	15.7	74.0
17728.000000	60.5	1000.0	1000.000	H	11.5	13.5	74.0

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB/m)	Margin - CAV (dB)	Limit - CAV (dBuV/m)
4804.000000	42.6	1000.0	1000.000	H	-4.7	11.4	54.0
7205.000000	47.2	1000.0	1000.000	H	-1.1	6.8	54.0
13901.000000	43.1	1000.0	1000.000	H	5.6	10.9	54.0
14900.000000	45.5	1000.0	1000.000	H	6.9	8.5	54.0
16784.000000	46.0	1000.0	1000.000	H	10.3	8.0	54.0
17728.000000	48.0	1000.0	1000.000	H	11.5	6.0	54.0

Tested by: Jason Wu

Reviewed by: Jacky Chen

20190524

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EMC Test Service Hotline: +86-20-28391188

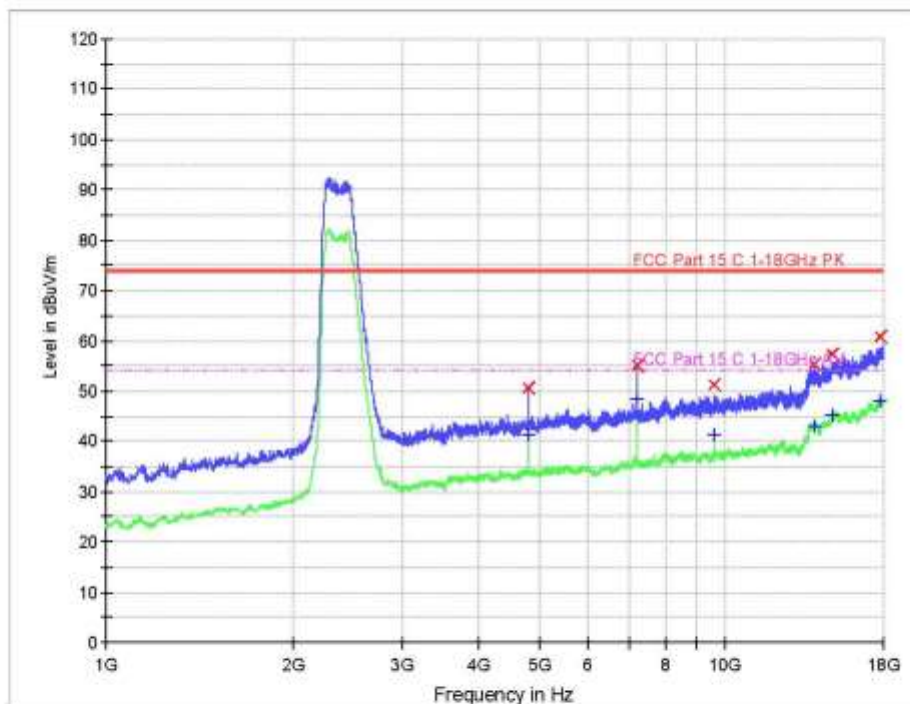
EMC Test Record (Emission)

Common Information

Manufacturer:	
Test Item:	Radio cassette recorder
Identification:	VBB-25
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(1DH5-Low)
Climate Condition:	20 °C, 50 %, 100 k Pa
Test Voltage/ Freq:	AC 120V / 60 Hz
Receipt No:	170107513
Report No:	/
Result:	Pass
Comment:	Vertical

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

EMCTT_EREFO11-A02-07_1GHz-18GHz_With PreAMP EXT& Notch filter



Tested by: Jason Wu

Reviewed by: Jacky Chen

20190524

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EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

Frequency (MHz)	MaxPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)
4804.000000	50.5	1000.0	1000.000	V	-4.7	23.5	74.0
7207.000000	55.0	1000.0	1000.000	V	-1.1	19.0	74.0
9600.000000	51.3	1000.0	1000.000	V	2.6	22.7	74.0
13935.000000	55.5	1000.0	1000.000	V	5.8	18.5	74.0
14923.000000	57.3	1000.0	1000.000	V	7.1	16.7	74.0
17766.000000	60.7	1000.0	1000.000	V	11.5	13.3	74.0

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB/m)	Margin - CAV (dB)	Limit - CAV (dBuV/m)
4804.000000	41.5	1000.0	1000.000	V	-4.7	12.5	54.0
7207.000000	48.3	1000.0	1000.000	V	-1.1	5.7	54.0
9600.000000	41.4	1000.0	1000.000	V	2.6	12.6	54.0
13935.000000	43.0	1000.0	1000.000	V	5.8	11.0	54.0
14923.000000	45.2	1000.0	1000.000	V	7.1	8.8	54.0
17766.000000	47.9	1000.0	1000.000	V	11.5	6.1	54.0

Tested by: Jason Wu

Reviewed by: Jacky Chen

20190524

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EMC Test Service Hotline: +86-20-28391188

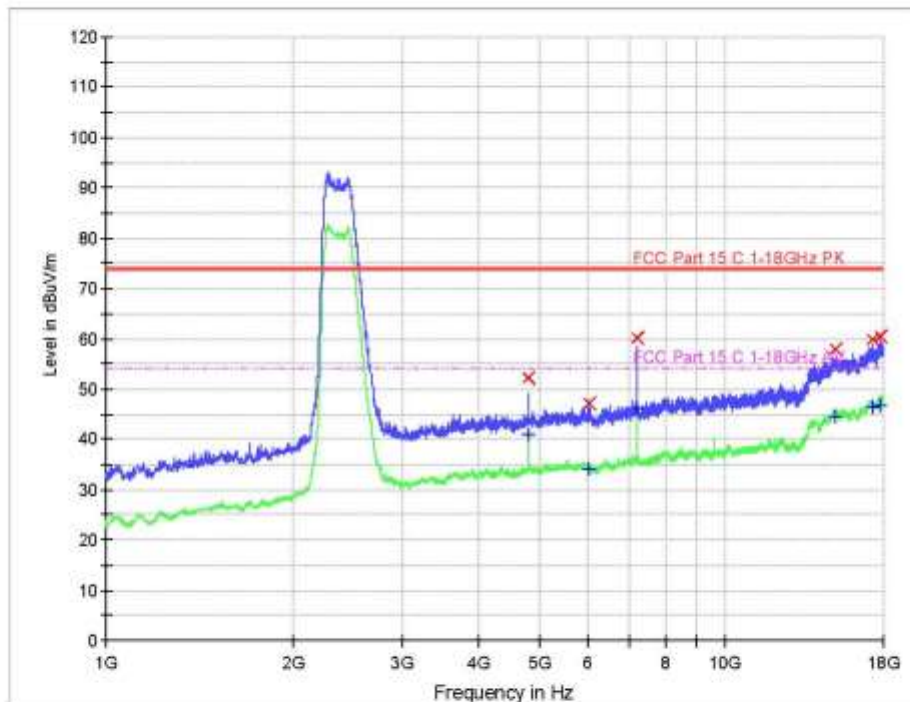
EMC Test Record (Emission)

Common Information

Manufacturer:	
Test Item:	Radio cassette recorder
Identification:	VBB-25
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(3DH5-Low)
Climate Condition:	20 °C, 50 %, 100 k Pa
Test Voltage/ Freq:	AC 120V / 60 Hz
Receipt No:	170107513
Report No:	/
Result:	Pass
Comment:	Horizontal

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

EMCTT_EREFO11-A02-07_1GHz-18GHz_With PreAMP EXT& Notch filter



Tested by: Jason Wu

20190524

Reviewed by: Jacky Chen

20190527

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/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)
4804.000000	52.2	1000.0	1000.000	H	-4.7	21.9	74.0
6023.000000	47.1	1000.0	1000.000	H	-3.6	26.9	74.0
7205.000000	60.1	1000.0	1000.000	H	-1.1	13.9	74.0
15029.000000	58.1	1000.0	1000.000	H	7.6	15.9	74.0
17252.000000	60.0	1000.0	1000.000	H	11.5	14.0	74.0
17781.000000	60.4	1000.0	1000.000	H	11.4	13.6	74.0

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB/m)	Margin - CAV (dB)	Limit - CAV (dBuV/m)
4804.000000	41.2	1000.0	1000.000	H	-4.7	12.8	54.0
6023.000000	33.9	1000.0	1000.000	H	-3.6	20.1	54.0
7205.000000	46.3	1000.0	1000.000	H	-1.1	7.7	54.0
15029.000000	44.6	1000.0	1000.000	H	7.6	9.4	54.0
17252.000000	46.5	1000.0	1000.000	H	11.5	7.5	54.0
17781.000000	46.9	1000.0	1000.000	H	11.4	7.1	54.0

Tested by:

Jason Wu

Reviewed by:

Jacky Chen

20190524

20190527

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

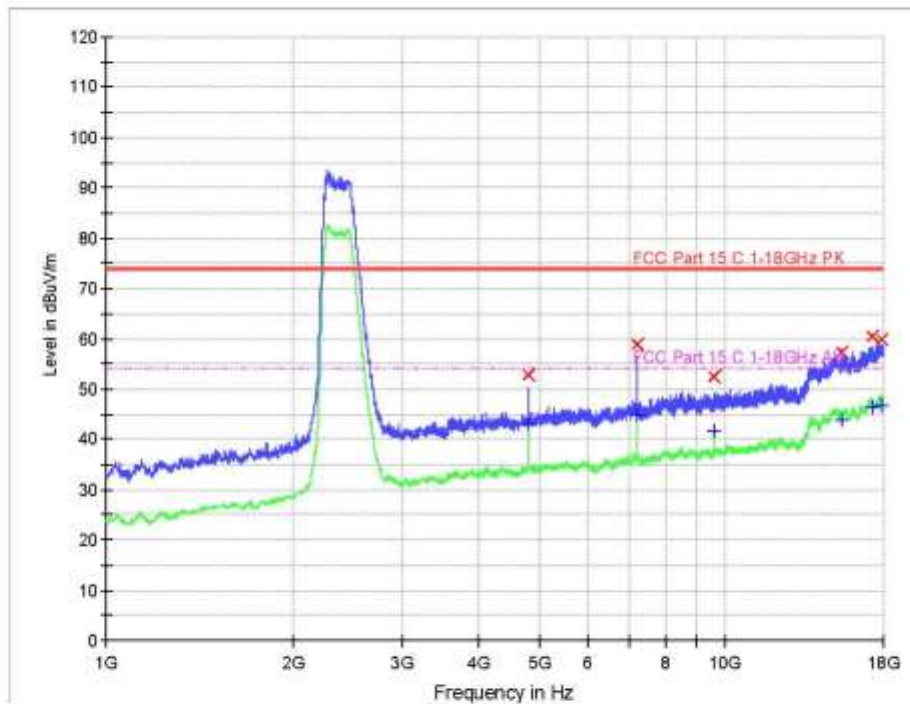
EMC Test Record (Emission)

Common Information

Manufacturer:	
Test Item:	Radio cassette recorder
Identification:	VBB-25
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(3DH5-Low)
Climate Condition:	20 °C, 50 %, 100 k Pa
Test Voltage/ Freq:	AC 120V / 60 Hz
Receipt No:	170107513
Report No:	/
Result:	Pass
Comment:	Vertical

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

EMCTT_EREFO11-A02-07_1GHz-18GHz_With PreAMP EXT& Notch filter



Tested by: Jason Wu
20190524

Reviewed by: Jacky Chen
20190527

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/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)
4804.000000	53.0	1000.0	1000.000	V	-4.7	21.0	74.0
7205.000000	58.8	1000.0	1000.000	V	-1.1	15.2	74.0
9600.000000	52.5	1000.0	1000.000	V	2.6	21.5	74.0
15435.000000	57.4	1000.0	1000.000	V	7.8	16.6	74.0
17222.000000	60.6	1000.0	1000.000	V	11.6	13.4	74.0
17913.000000	60.0	1000.0	1000.000	V	11.2	14.0	74.0

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB/m)	Margin - CAV (dB)	Limit - CAV (dBuV/m)
4804.000000	42.9	1000.0	1000.000	V	-4.7	11.1	54.0
7205.000000	44.9	1000.0	1000.000	V	-1.1	9.1	54.0
9600.000000	41.8	1000.0	1000.000	V	2.6	12.2	54.0
15435.000000	44.1	1000.0	1000.000	V	7.8	9.9	54.0
17222.000000	46.5	1000.0	1000.000	V	11.6	7.5	54.0
17913.000000	46.7	1000.0	1000.000	V	11.2	7.3	54.0

Tested by:

Jason Wu

20190524

Reviewed by:

Jacky Chen

20190527

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

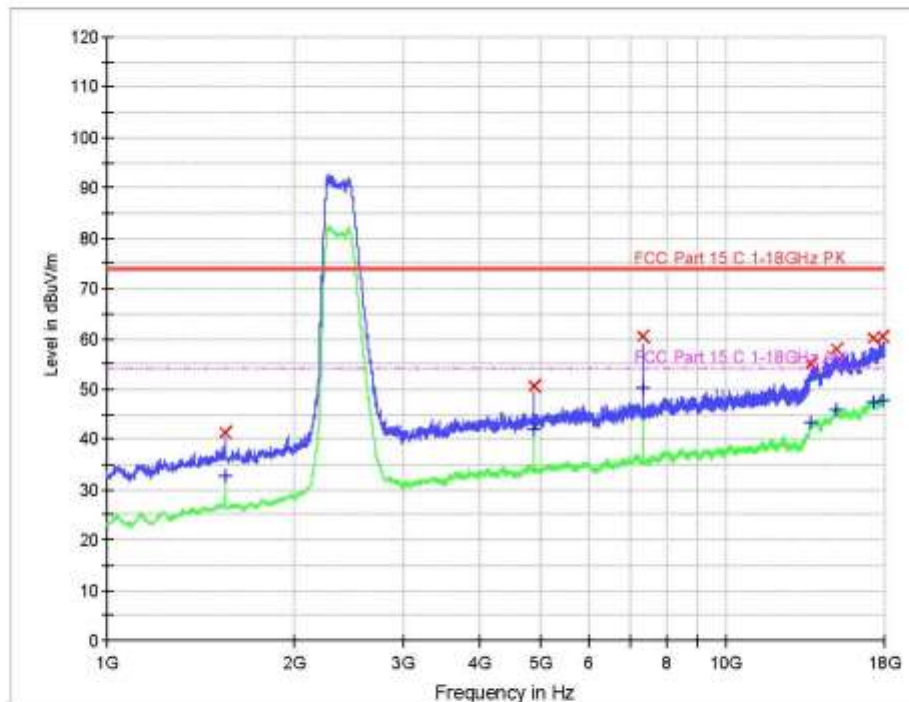
EMC Test Record (Emission)

Common Information

Manufacturer:	
Test Item:	Radio cassette recorder
Identification:	VBB-25
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(1DH5-Mid)
Climate Condition:	20 °C, 50 %, 100 k Pa
Test Voltage/ Freq:	AC 120V / 60 Hz
Receipt No:	170107513
Report No:	/
Result:	Pass
Comment:	Horizontal

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

EMCTT_EREFO11-A02-07_1GHz-18GHz_With PreAMP EXT& Notch filter



Tested by: Jason Wu

Reviewed by: Jacky Chen

20190524

20190527

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/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)
1550.000000	41.3	1000.0	1000.000	H	-13.8	32.8	74.0
4884.000000	50.7	1000.0	1000.000	H	-4.4	23.3	74.0
7326.000000	60.5	1000.0	1000.000	H	-1.3	13.5	74.0
13729.000000	55.2	1000.0	1000.000	H	4.8	18.9	74.0
15027.000000	57.8	1000.0	1000.000	H	7.6	16.2	74.0
17267.000000	60.2	1000.0	1000.000	H	11.5	13.8	74.0
17889.000000	60.6	1000.0	1000.000	H	11.3	13.4	74.0

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB/m)	Margin - CAV (dB)	Limit - CAV (dBuV/m)
1550.000000	32.7	1000.0	1000.000	H	-13.8	21.3	54.0
4884.000000	42.1	1000.0	1000.000	H	-4.4	11.9	54.0
7326.000000	50.4	1000.0	1000.000	H	-1.3	3.6	54.0
13729.000000	43.4	1000.0	1000.000	H	4.8	10.6	54.0
15027.000000	45.7	1000.0	1000.000	H	7.6	8.3	54.0
17267.000000	47.3	1000.0	1000.000	H	11.5	6.7	54.0
17889.000000	47.9	1000.0	1000.000	H	11.3	6.1	54.0

Tested by: Jason Wu

Reviewed by: Jacky Chen

20190524

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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

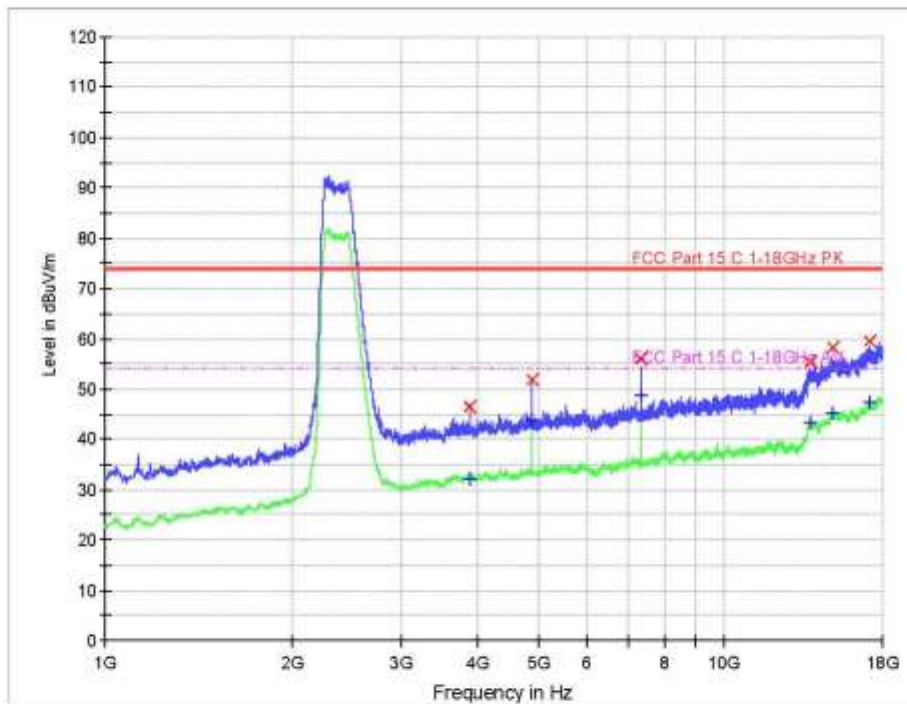
EMC Test Record (Emission)

Common Information

Manufacturer:	
Test Item:	Radio cassette recorder
Identification:	VBB-25
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(1DH5-Mid)
Climate Condition:	20 °C, 50 %, 100 k Pa
Test Voltage/ Freq:	AC 120V / 60 Hz
Receipt No:	170107513
Report No:	/
Result:	Pass
Comment:	Vertical

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

EMCTT_EREFO11-A02-07_1GHz-18GHz_With PreAMP EXT& Notch filter



Tested by: Jason Wu

20190524

Reviewed by: Jacky Chen

20190527

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/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)
3886.000000	46.5	1000.0	1000.000	V	-6.4	27.5	74.0
4884.000000	52.0	1000.0	1000.000	V	-4.4	22.0	74.0
7324.000000	56.0	1000.0	1000.000	V	-1.3	18.0	74.0
13748.000000	55.4	1000.0	1000.000	V	4.9	18.6	74.0
14925.000000	58.2	1000.0	1000.000	V	7.2	15.8	74.0
17192.000000	59.6	1000.0	1000.000	V	11.6	14.4	74.0

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB/m)	Margin - CAV (dB)	Limit - CAV (dBuV/m)
3886.000000	32.2	1000.0	1000.000	V	-6.4	21.8	54.0
4884.000000	43.9	1000.0	1000.000	V	-4.4	10.1	54.0
7324.000000	48.8	1000.0	1000.000	V	-1.3	5.2	54.0
13748.000000	43.3	1000.0	1000.000	V	4.9	10.7	54.0
14925.000000	45.1	1000.0	1000.000	V	7.2	8.9	54.0
17192.000000	47.4	1000.0	1000.000	V	11.6	6.6	54.0

Tested by:

Jason Wu

Reviewed by:

Jacky Chen

20190524

20190527

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

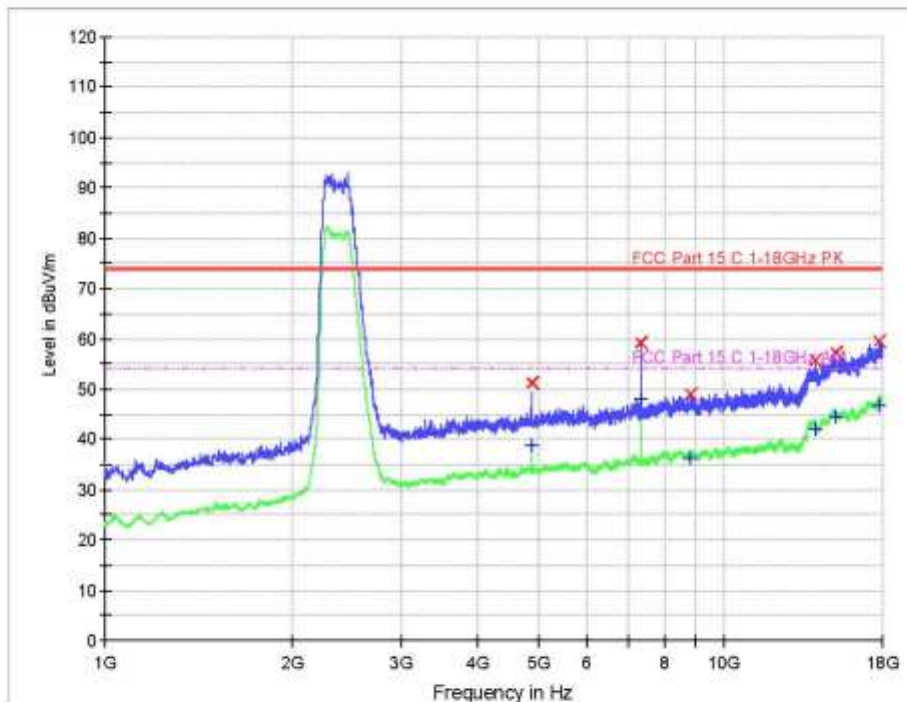
EMC Test Record (Emission)

Common Information

Manufacturer:	
Test Item:	Radio cassette recorder
Identification:	VBB-25
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(3DH5-Mid)
Climate Condition:	20 °C, 50 %, 100 k Pa
Test Voltage/ Freq:	AC 120V / 60 Hz
Receipt No:	170107513
Report No:	/
Result:	Pass
Comment:	Horizontal

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

EMCTT_EREFO11-A02-07_1GHz-18GHz_With PreAMP EXT& Notch filter



Tested by: Jason Wu

20190524

Reviewed by: Jacky Chen

20190527

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/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)
4882.000000	51.1	1000.0	1000.000	H	-4.4	22.9	74.0
7326.000000	59.3	1000.0	1000.000	H	-1.3	14.7	74.0
8843.000000	49.1	1000.0	1000.000	H	1.9	24.9	74.0
14028.000000	55.8	1000.0	1000.000	H	5.8	18.2	74.0
15135.000000	57.4	1000.0	1000.000	H	7.5	16.6	74.0
17766.000000	59.7	1000.0	1000.000	H	11.5	14.3	74.0

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB/m)	Margin - CAV (dB)	Limit - CAV (dBuV/m)
4882.000000	38.7	1000.0	1000.000	H	-4.4	15.3	54.0
7326.000000	48.0	1000.0	1000.000	H	-1.3	6.0	54.0
8843.000000	36.3	1000.0	1000.000	H	1.9	17.7	54.0
14028.000000	42.1	1000.0	1000.000	H	5.8	11.9	54.0
15135.000000	44.5	1000.0	1000.000	H	7.5	9.5	54.0
17766.000000	46.9	1000.0	1000.000	H	11.5	7.1	54.0

Tested by: Jason Wu

Reviewed by: Jacky Chen

20190524

20190527

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

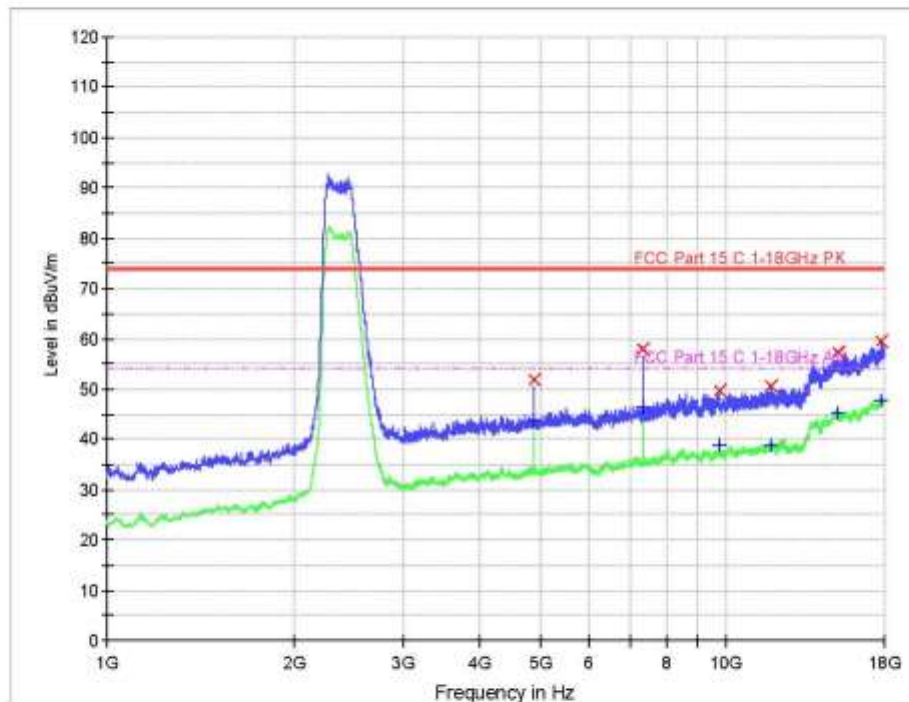
EMC Test Record (Emission)

Common Information

Manufacturer:	
Test Item:	Radio cassette recorder
Identification:	VBB-25
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(3DH5-Mid)
Climate Condition:	20 °C, 50 %, 100 k Pa
Test Voltage/ Freq:	AC 120V / 60 Hz
Receipt No:	170107513
Report No:	/
Result:	Pass
Comment:	Vertical

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

EMCTT_EREFO11-A02-07_1GHz-18GHz_With PreAMP EXT& Notch filter



Tested by: Jason Wu

20190524

Reviewed by: Jacky Chen

20190527

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/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)
4884.000000	51.8	1000.0	1000.000	V	-4.4	22.2	74.0
7326.000000	57.9	1000.0	1000.000	V	-1.3	16.1	74.0
9759.000000	49.8	1000.0	1000.000	V	2.9	24.2	74.0
11797.000000	50.7	1000.0	1000.000	V	5.2	23.3	74.0
15161.000000	57.3	1000.0	1000.000	V	7.4	16.7	74.0
17813.000000	59.6	1000.0	1000.000	V	11.4	14.4	74.0

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB/m)	Margin - CAV (dB)	Limit - CAV (dBuV/m)
4884.000000	44.0	1000.0	1000.000	V	-4.4	10.0	54.0
7326.000000	46.4	1000.0	1000.000	V	-1.3	7.6	54.0
9759.000000	38.7	1000.0	1000.000	V	2.9	15.3	54.0
11797.000000	38.9	1000.0	1000.000	V	5.2	15.1	54.0
15161.000000	45.2	1000.0	1000.000	V	7.4	8.8	54.0
17813.000000	47.6	1000.0	1000.000	V	11.4	6.4	54.0

Tested by: Jason Wu

Reviewed by: Jacky Chen

20190524

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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

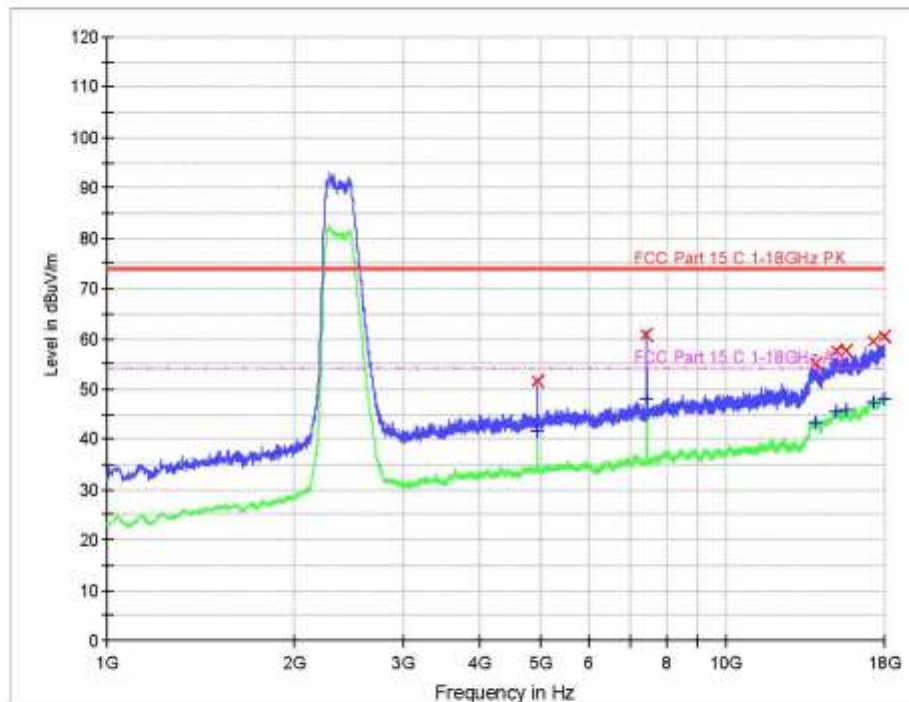
EMC Test Record (Emission)

Common Information

Manufacturer:	
Test Item:	Radio cassette recorder
Identification:	VBB-25
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(1DH5-High)
Climate Condition:	20 °C, 50 %, 100 k Pa
Test Voltage/ Freq:	AC 120V / 60 Hz
Receipt No:	170107513
Report No:	/
Result:	Pass
Comment:	Horizontal

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

EMCTT_EREFO11-A02-07_1GHz-18GHz_With PreAMP EXT& Notch filter



Tested by: Jason Wu

20190524

Reviewed by: Jacky Chen

20190527

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/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)
4959.000000	51.4	1000.0	1000.000	H	-4.7	22.6	74.0
7439.000000	60.8	1000.0	1000.000	H	-1.0	13.2	74.0
13977.000000	55.1	1000.0	1000.000	H	6.0	18.9	74.0
15038.000000	57.5	1000.0	1000.000	H	7.6	16.5	74.0
15575.000000	57.7	1000.0	1000.000	H	8.5	16.3	74.0
17233.000000	59.5	1000.0	1000.000	H	11.6	14.6	74.0
17966.000000	60.3	1000.0	1000.000	H	11.6	13.7	74.0

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB/m)	Margin - CAV (dB)	Limit - CAV (dBuV/m)
4959.000000	41.6	1000.0	1000.000	H	-4.7	12.4	54.0
7439.000000	48.1	1000.0	1000.000	H	-1.0	5.9	54.0
13977.000000	43.3	1000.0	1000.000	H	6.0	10.7	54.0
15038.000000	45.5	1000.0	1000.000	H	7.6	8.5	54.0
15575.000000	45.7	1000.0	1000.000	H	8.5	8.3	54.0
17233.000000	47.4	1000.0	1000.000	H	11.6	6.6	54.0
17966.000000	47.9	1000.0	1000.000	H	11.6	6.1	54.0

Tested by:

Jason Wu

Reviewed by:

Jacky Chen

20190524

20190527

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

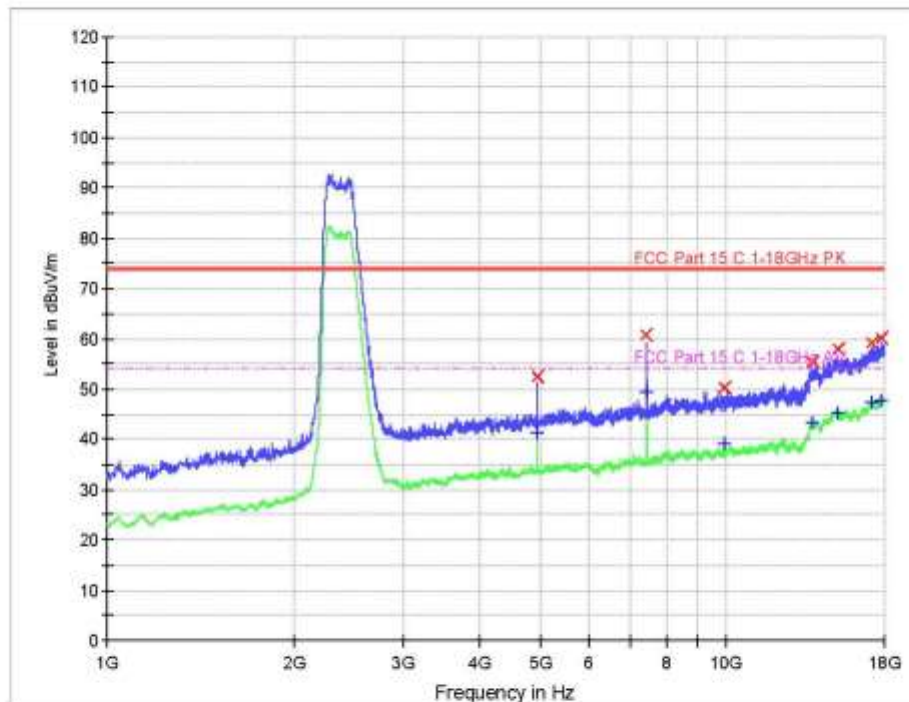
EMC Test Record (Emission)

Common Information

Manufacturer:	
Test Item:	Radio cassette recorder
Identification:	VBB-25
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(1DH5-High)
Climate Condition:	20 °C, 50 %, 100 k Pa
Test Voltage/ Freq:	AC 120V / 60 Hz
Receipt No:	170107513
Report No:	/
Result:	Pass
Comment:	Vertical

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

EMCTT_EREFO11-A02-07_1GHz-18GHz_With PreAMP EXT& Notch filter



Tested by: Jason Wu

20190524

Reviewed by: Jacky Chen

20190527

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/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)
4959.000000	52.4	1000.0	1000.000	V	-4.7	21.6	74.0
7439.000000	60.8	1000.0	1000.000	V	-1.0	13.2	74.0
9912.000000	50.2	1000.0	1000.000	V	3.5	23.8	74.0
13780.000000	55.5	1000.0	1000.000	V	5.0	18.5	74.0
15152.000000	58.0	1000.0	1000.000	V	7.5	16.0	74.0
17203.000000	59.1	1000.0	1000.000	V	11.6	14.9	74.0
17787.000000	60.1	1000.0	1000.000	V	11.4	13.9	74.0

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB/m)	Margin - CAV (dB)	Limit - CAV (dBuV/m)
4959.000000	41.5	1000.0	1000.000	V	-4.7	12.5	54.0
7439.000000	49.2	1000.0	1000.000	V	-1.0	4.8	54.0
9912.000000	39.3	1000.0	1000.000	V	3.5	14.7	54.0
13780.000000	43.2	1000.0	1000.000	V	5.0	10.8	54.0
15152.000000	45.2	1000.0	1000.000	V	7.5	8.8	54.0
17203.000000	47.4	1000.0	1000.000	V	11.6	6.6	54.0
17787.000000	47.7	1000.0	1000.000	V	11.4	6.3	54.0

Tested by:

Jason Wu

Reviewed by:

Jacky Chen

20190524

20190527

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

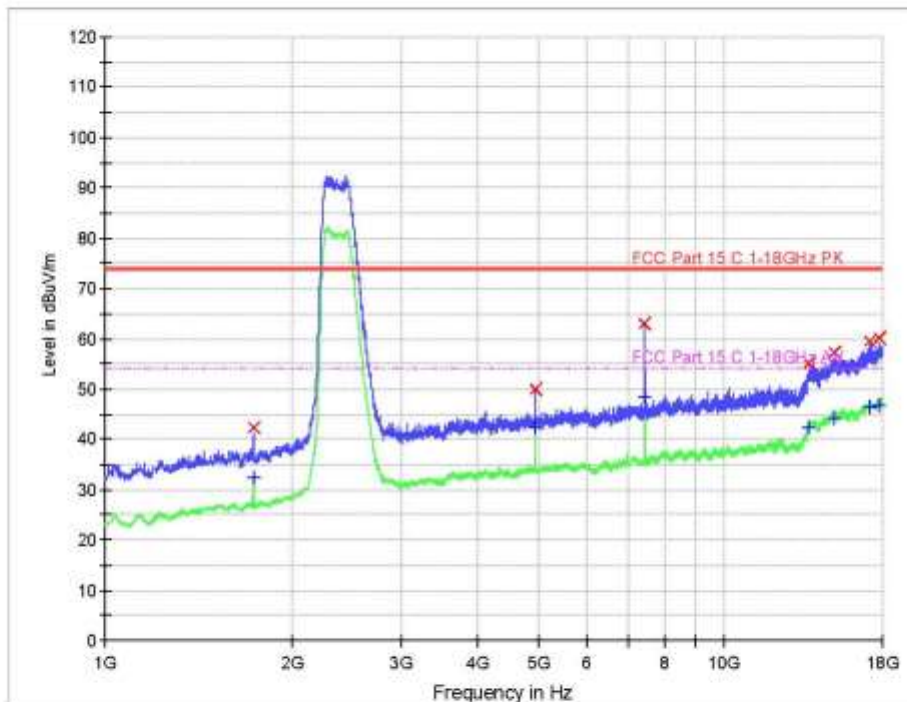
EMC Test Record (Emission)

Common Information

Manufacturer:	
Test Item:	Radio cassette recorder
Identification:	VBB-25
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(3DH5-High)
Climate Condition:	20 °C, 50 %, 100 k Pa
Test Voltage/ Freq:	AC 120V / 60 Hz
Receipt No:	170107513
Report No:	/
Result:	Pass
Comment:	Horizontal

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

EMCTT_EREFO11-A02-07_1GHz-18GHz_With PreAMP EXT& Notch filter



Tested by: Jason Wu

20190524

Reviewed by: Jacky Chen

20190527

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/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)
1735.000000	42.3	1000.0	1000.000	H	-12.9	31.7	74.0
4961.000000	50.1	1000.0	1000.000	H	-4.7	23.9	74.0
7441.000000	62.9	1000.0	1000.000	H	-1.0	11.1	74.0
13729.000000	55.1	1000.0	1000.000	H	4.8	18.9	74.0
15078.000000	57.4	1000.0	1000.000	H	7.6	16.6	74.0
17163.000000	59.6	1000.0	1000.000	H	11.5	14.4	74.0
17773.000000	60.1	1000.0	1000.000	H	11.4	13.9	74.0

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB/m)	Margin - CAV (dB)	Limit - CAV (dBuV/m)
1735.000000	32.4	1000.0	1000.000	H	-12.9	21.6	54.0
4961.000000	42.4	1000.0	1000.000	H	-4.7	11.6	54.0
7441.000000	48.5	1000.0	1000.000	H	-1.0	5.5	54.0
13729.000000	42.3	1000.0	1000.000	H	4.8	11.7	54.0
15078.000000	44.3	1000.0	1000.000	H	7.6	9.7	54.0
17163.000000	46.5	1000.0	1000.000	H	11.5	7.5	54.0
17773.000000	46.9	1000.0	1000.000	H	11.4	7.1	54.0

Tested by: Jason Wu

Reviewed by: Jacky Chen

20190524

20190527

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

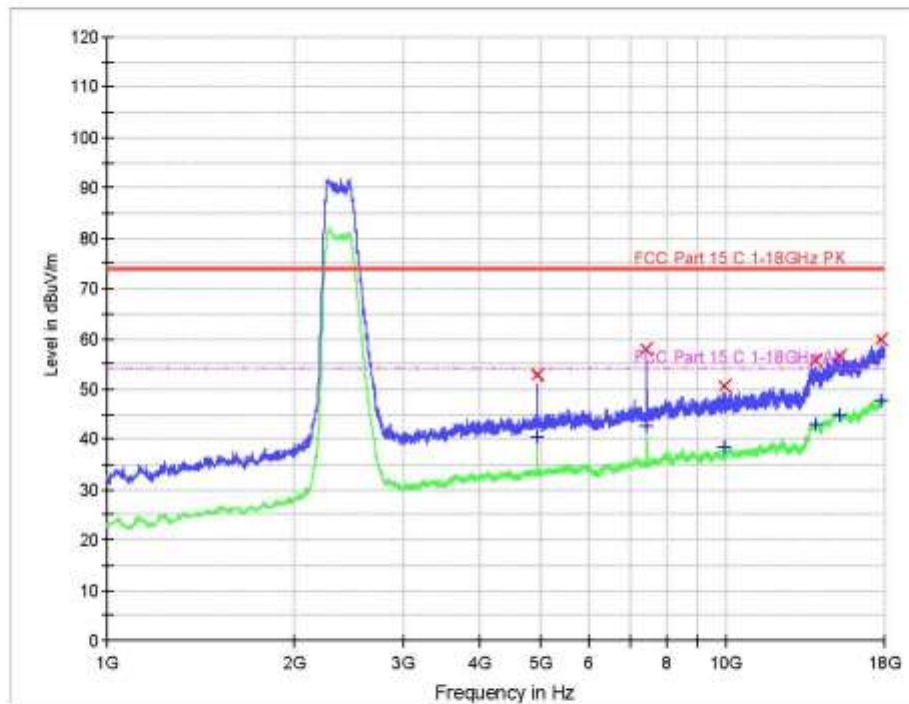
EMC Test Record (Emission)

Common Information

Manufacturer:	
Test Item:	Radio cassette recorder
Identification:	VBB-25
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(3DH5-High)
Climate Condition:	20 °C, 50 %, 100 k Pa
Test Voltage/ Freq:	AC 120V / 60 Hz
Receipt No:	170107513
Report No:	/
Result:	Pass
Comment:	Vertical

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

EMCTT_EREFO11-A02-07_1GHz-18GHz_With PreAMP EXT& Notch filter



Tested by: Jason Wu
20190524

Reviewed by: Jacky Chen
20190527

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/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)
4959.000000	52.9	1000.0	1000.000	V	-4.7	21.1	74.0
7439.000000	57.9	1000.0	1000.000	V	-1.0	16.1	74.0
9912.000000	50.5	1000.0	1000.000	V	3.5	23.5	74.0
13954.000000	55.6	1000.0	1000.000	V	6.0	18.4	74.0
15203.000000	56.7	1000.0	1000.000	V	7.3	17.3	74.0
17745.000000	59.8	1000.0	1000.000	V	11.5	14.2	74.0

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB/m)	Margin - CAV (dB)	Limit - CAV (dBuV/m)
4959.000000	40.6	1000.0	1000.000	V	-4.7	13.4	54.0
7439.000000	42.5	1000.0	1000.000	V	-1.0	11.5	54.0
9912.000000	38.5	1000.0	1000.000	V	3.5	15.5	54.0
13954.000000	43.0	1000.0	1000.000	V	6.0	11.0	54.0
15203.000000	44.9	1000.0	1000.000	V	7.3	9.1	54.0
17745.000000	47.6	1000.0	1000.000	V	11.5	6.4	54.0

Tested by: Jason Wu

20190524

Reviewed by: Jacky Chen

20190527

Appendix B.9: Test Results of Radiated Emissions in Restricted Bands Low channel

TUV Rheinland (Guangdong) Ltd.

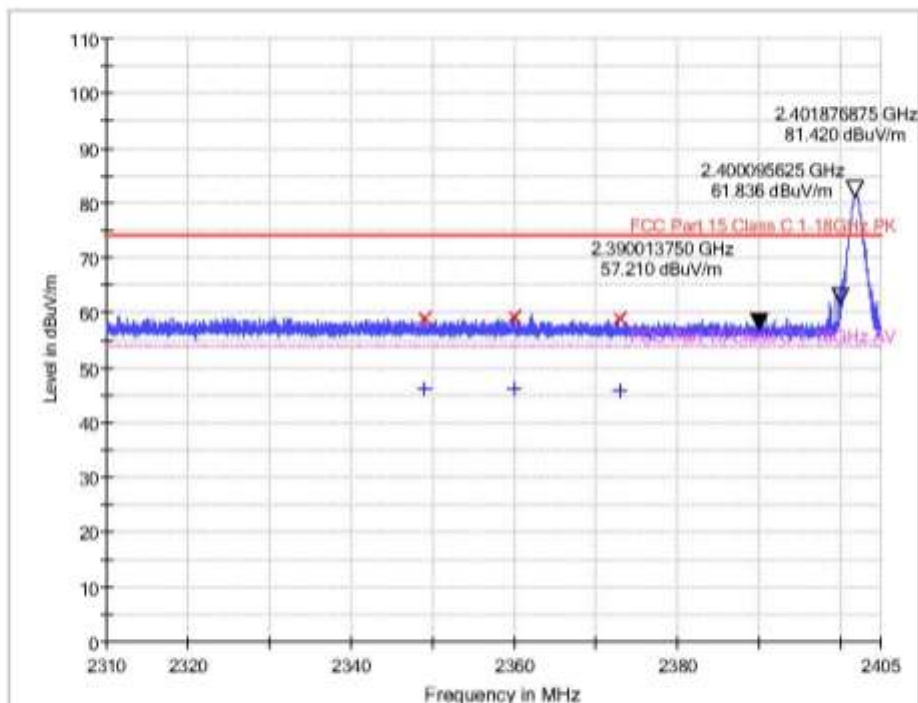
EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:	
Test Item:	Radio cassette recorder
Identification:	VBB-25
Test Standard:	FCC Part 15
Test Detail:	Band edge
Operation Mode:	Transmitting(1DH5-Low)
Climate Condition:	20 °C, 50 %, 100 k Pa
Test Voltage/ Freq:	AC 120V / 60 Hz
Receipt No:	170107513
Report No:	/
Result:	Pass
Comment:	Horizontal
Subrange 1	
Frequency Range:	1GHz-18GHz
Receiver:	TUV FSP30
Transducer:	TUV SAC HF907/ TUV FSP30-TUV SAC HF907

EMCTT_EREFO11-A02-04_1GHz-18GHz



Tested by: Jason Wu
20190524

Reviewed by: Jacky Chen
20190527

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/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)
2349.040000	59.1	1000.0	1000.000	H	32.9	14.9	74.0
2360.080000	59.2	1000.0	1000.000	H	33.0	14.8	74.0
2372.920000	59.1	1000.0	1000.000	H	33.0	14.9	74.0

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB/m)	Margin - CAV (dB)	Limit - CAV (dBuV/m)
2349.040000	46.1	1000.0	1000.000	H	32.9	7.9	54.0
2360.080000	46.1	1000.0	1000.000	H	33.0	7.9	54.0
2372.920000	45.9	1000.0	1000.000	H	33.0	8.1	54.0

Tested by: *Jason Wu*

Reviewed by: *Jacky Chen*

20190524

20190527

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

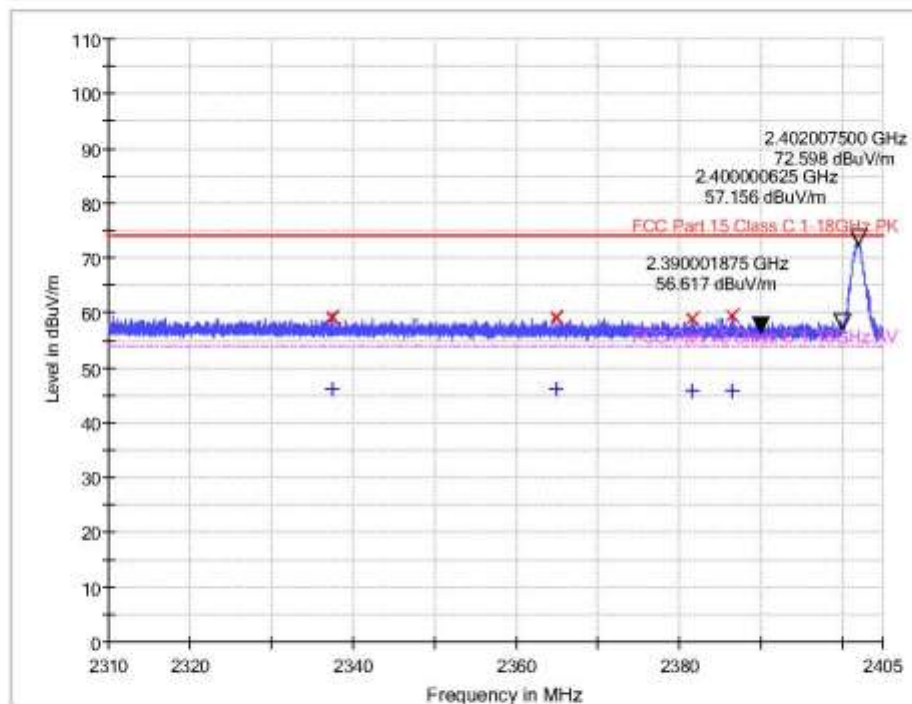
EMC Test Record (Emission)

Common Information

Manufacturer:	
Test Item:	Radio cassette recorder
Identification:	VBB-25
Test Standard:	FCC Part 15
Test Detail:	Band edge
Operation Mode:	Transmitting(1DH5-Low)
Climate Condition:	20 °C, 50 %, 100 k Pa
Test Voltage/ Freq:	AC 120V / 60 Hz
Receipt No:	170107513
Report No:	/
Result:	Pass
Comment:	Vertical

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

EMCTT_EREFO11-A02-04_1GHz-18GHz



Tested by: Jason Wu
20190524

Reviewed by: Jacky Chen
20190527

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/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)
2337.400000	59.2	1000.0	1000.000	V	32.9	14.8	74.0
2364.880000	59.3	1000.0	1000.000	V	33.0	14.7	74.0
2381.680000	58.9	1000.0	1000.000	V	33.0	15.1	74.0
2386.600000	59.4	1000.0	1000.000	V	33.0	14.6	74.0

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB/m)	Margin - CAV (dB)	Limit - CAV (dBuV/m)
2337.400000	46.1	1000.0	1000.000	V	32.9	7.9	54.0
2364.880000	46.0	1000.0	1000.000	V	33.0	8.0	54.0
2381.680000	45.9	1000.0	1000.000	V	33.0	8.1	54.0
2386.600000	45.8	1000.0	1000.000	V	33.0	8.2	54.0

Tested by:

Jason Wu

Reviewed by:

Jacky Chen

20190524

20190527

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

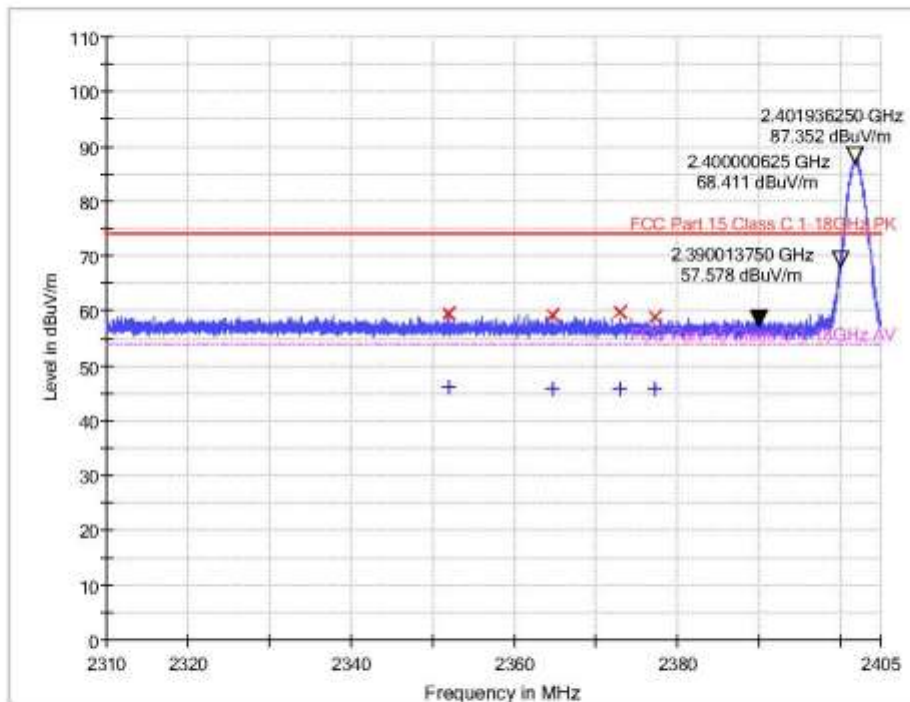
EMC Test Record (Emission)

Common Information

Manufacturer:	
Test Item:	Radio cassette recorder
Identification:	VBB-25
Test Standard:	FCC Part 15
Test Detail:	Band edge
Operation Mode:	Transmitting(3DH5-Low)
Climate Condition:	20 °C, 50 %, 100 kPa
Test Voltage/ Freq:	AC 120V / 60 Hz
Receipt No:	170107513
Report No:	/
Result:	Pass
Comment:	Horizontal

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

EMCTT_EREFO11-A02-04_1GHz-18GHz



Tested by: Jason Wu
20190524

Reviewed by: Jacky Chen
20190527

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/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)
2351.920000	59.6	1000.0	1000.000	H	32.9	14.4	74.0
2364.760000	59.3	1000.0	1000.000	H	33.0	14.7	74.0
2373.040000	59.8	1000.0	1000.000	H	33.0	14.2	74.0
2377.240000	59.0	1000.0	1000.000	H	33.0	15.0	74.0

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB/m)	Margin - CAV (dB)	Limit - CAV (dBuV/m)
2351.920000	46.0	1000.0	1000.000	H	32.9	8.0	54.0
2364.760000	45.9	1000.0	1000.000	H	33.0	8.1	54.0
2373.040000	45.9	1000.0	1000.000	H	33.0	8.1	54.0
2377.240000	45.8	1000.0	1000.000	H	33.0	8.2	54.0

Tested by:

Jason Wu

Reviewed by:

Jacky Chen

20190524

20190527

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

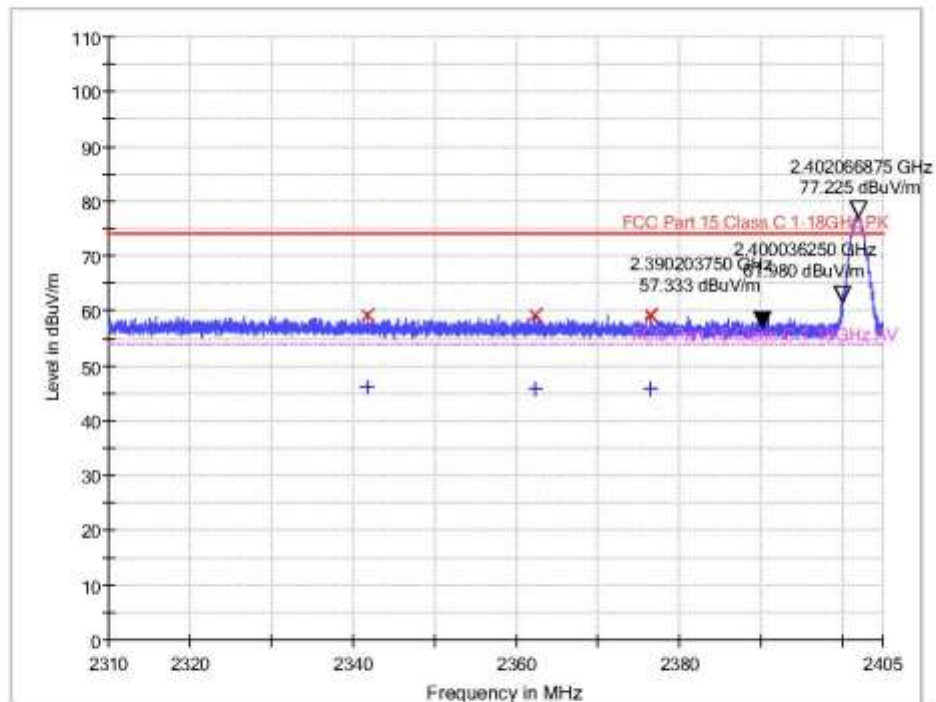
EMC Test Record (Emission)

Common Information

Manufacturer:	
Test Item:	Radio cassette recorder
Identification:	VBB-25
Test Standard:	FCC Part 15
Test Detail:	Band edge
Operation Mode:	Transmitting(3DH5-Low)
Climate Condition:	20 °C, 50 %, 100 k Pa
Test Voltage/ Freq:	AC 120V / 60 Hz
Receipt No:	170107513
Report No:	/
Result:	Pass
Comment:	Vertical

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

EMCTT_EREFO11-A02-04_1GHz-18GHz



Tested by:

Jason Wu

20190524

Reviewed by:

Jacky Chen

20190527

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/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)
2341.840000	59.4	1000.0	1000.000	V	32.9	14.6	74.0
2362.360000	59.3	1000.0	1000.000	V	33.0	14.7	74.0
2376.520000	59.2	1000.0	1000.000	V	33.0	14.8	74.0

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB/m)	Margin - CAV (dB)	Limit - CAV (dBuV/m)
2341.840000	46.1	1000.0	1000.000	V	32.9	7.9	54.0
2362.360000	46.0	1000.0	1000.000	V	33.0	8.0	54.0
2376.520000	45.8	1000.0	1000.000	V	33.0	8.2	54.0

Tested by:

Jason Wu

Reviewed by:

Jacky Chen

20190524

20190527

High channel

TUV Rheinland (Guangdong) Ltd.

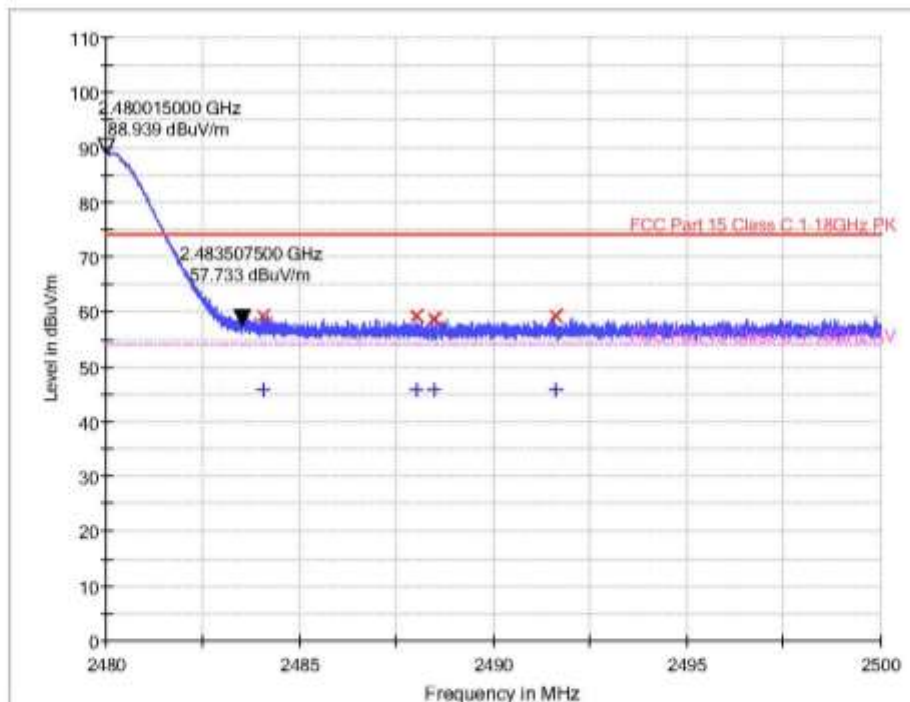
EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:	
Test Item:	Radio cassette recorder
Identification:	VBB-25
Test Standard:	FCC Part 15
Test Detail:	Band edge
Operation Mode:	Transmitting(1DH5-High)
Climate Condition:	20 °C, 50 %, 100 k Pa
Test Voltage/ Freq:	AC 120V / 60 Hz
Receipt No:	170107513
Report No:	/
Result:	Pass
Comment:	Horizontal
Subrange 1	
Frequency Range:	1GHz-18GHz
Receiver:	TUV FSP30
Transducer:	TUV SAC HF907/ TUV FSP30-TUV SAC HF907

EMCTT_EREFO11-A02-04_1GHz-18GHz



Tested by: Jason Wu

20190524

Reviewed by: Jacky Chen

20190527

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/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)
2484.040000	59.2	1000.0	1000.000	H	33.2	14.8	74.0
2488.000000	59.4	1000.0	1000.000	H	33.2	14.6	74.0
2488.480000	58.8	1000.0	1000.000	H	33.2	15.2	74.0
2491.600000	59.3	1000.0	1000.000	H	33.2	14.7	74.0

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Poi	Corr. (dB/m)	Margin - CAV (dB)	Limit - CAV (dBuV/m)
2484.040000	45.9	1000.0	1000.000	H	33.2	8.1	54.0
2488.000000	45.8	1000.0	1000.000	H	33.2	8.2	54.0
2488.480000	45.8	1000.0	1000.000	H	33.2	8.2	54.0
2491.600000	45.8	1000.0	1000.000	H	33.2	8.2	54.0

Tested by:

Jason Wu

Reviewed by:

Jacky Chen

20190524

20190527

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

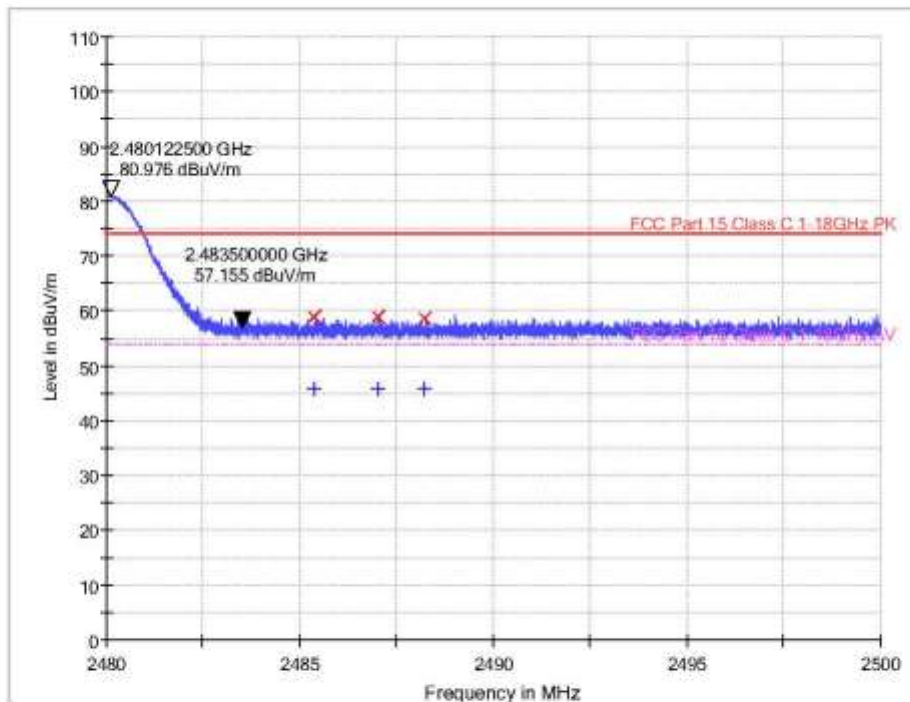
EMC Test Record (Emission)

Common Information

Manufacturer:	
Test Item:	Radio cassette recorder
Identification:	VBB-25
Test Standard:	FCC Part 15
Test Detail:	Band edge
Operation Mode:	Transmitting(1DH5-High)
Climate Condition:	20 °C, 50 %, 100 kPa
Test Voltage/ Freq:	AC 120V / 60 Hz
Receipt No:	170107513
Report No:	/
Result:	Pass
Comment:	Vertical

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

EMCTT_EREFO11-A02-04_1GHz-18GHz



Tested by: Jason Wu

20190524

Reviewed by: Jacky Chen

20190527

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/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)
2485.360000	58.9	1000.0	1000.000	V	33.2	15.1	74.0
2487.040000	58.9	1000.0	1000.000	V	33.2	15.1	74.0
2488.240000	58.7	1000.0	1000.000	V	33.2	15.3	74.0

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB/m)	Margin - CAV (dB)	Limit - CAV (dBuV/m)
2485.360000	45.8	1000.0	1000.000	V	33.2	8.2	54.0
2487.040000	45.8	1000.0	1000.000	V	33.2	8.2	54.0
2488.240000	45.8	1000.0	1000.000	V	33.2	8.2	54.0

Tested by: Jason Wu

20190524

Reviewed by: Jacky Chen

20190527

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

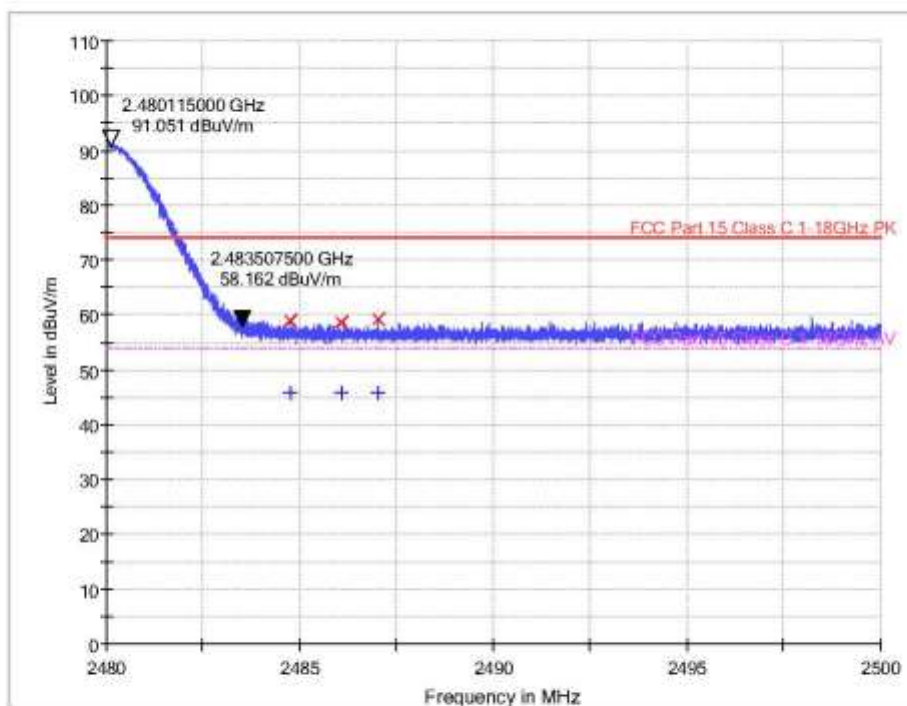
EMC Test Record (Emission)

Common Information

Manufacturer:	
Test Item:	Radio cassette recorder
Identification:	VBB-25
Test Standard:	FCC Part 15
Test Detail:	Band edge
Operation Mode:	Transmitting(3DH5-High)
Climate Condition:	20 °C, 50 %, 100 k Pa
Test Voltage/ Freq:	AC 120V / 60 Hz
Receipt No:	170107513
Report No:	/
Result:	Pass
Comment:	Horizontal

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

EMCTT_EREFO11-A02-04_1GHz-18GHz



Tested by: Jason Wu

20190524

Reviewed by: Jacky Chen

20190527

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/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)
2484.760000	59.0	1000.0	1000.000	H	33.2	15.0	74.0
2486.080000	58.7	1000.0	1000.000	H	33.2	15.3	74.0
2487.040000	59.3	1000.0	1000.000	H	33.2	14.7	74.0

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB/m)	Margin - CAV (dB)	Limit - CAV (dBuV/m)
2484.760000	45.7	1000.0	1000.000	H	33.2	8.3	54.0
2486.080000	45.7	1000.0	1000.000	H	33.2	8.3	54.0
2487.040000	45.7	1000.0	1000.000	H	33.2	8.3	54.0

Tested by: Jason Wu

20190524

Reviewed by: Jacky Chen

20190527

TUV Rheinland (Guangdong) Ltd.

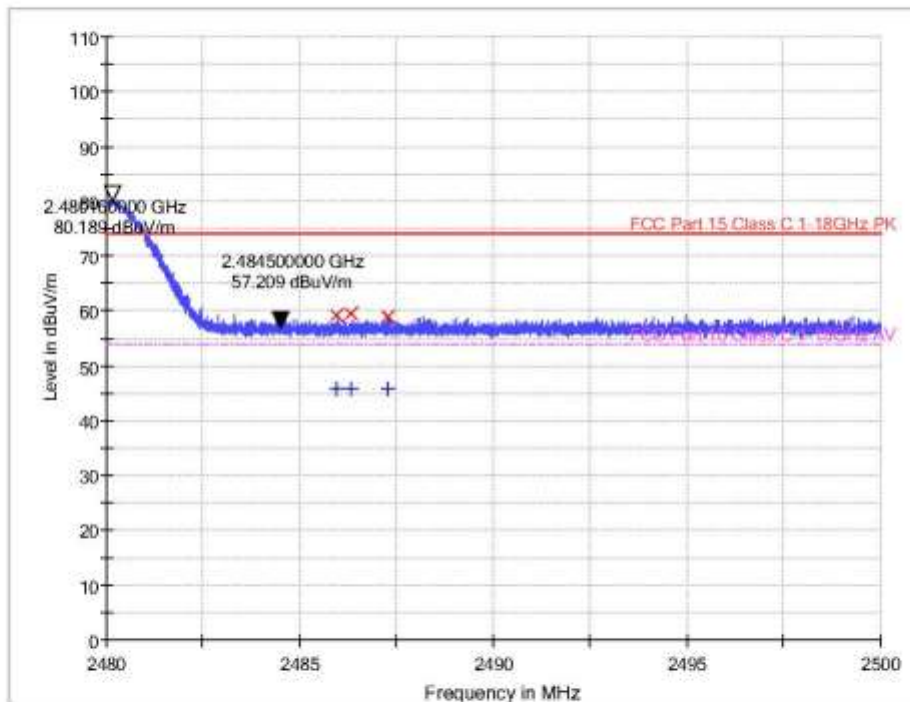
EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:	
Test Item:	Radio cassette recorder
Identification:	VBB-25
Test Standard:	FCC Part 15
Test Detail:	Band edge
Operation Mode:	Transmitting(3DH5-High)
Climate Condition:	20 °C, 50 %, 100 k Pa
Test Voltage/ Freq:	AC 120V / 60 Hz
Receipt No:	170107513
Report No:	/
Result:	Pass
Comment:	Vertical
Subrange 1	
Frequency Range:	1GHz-18GHz
Receiver:	TUV FSP30
Transducer:	TUV SAC HF907/ TUV FSP30-TUV SAC HF907

EMCTT_EREFO11-A02-04_1GHz-18GHz



Tested by: Jason Wu

20190524

Reviewed by: Jacky Chen

20190527

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/m)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)
2485.960000	59.2	1000.0	1000.000	V	33.2	14.8	74.0
2486.320000	59.5	1000.0	1000.000	V	33.2	14.5	74.0
2487.280000	58.9	1000.0	1000.000	V	33.2	15.1	74.0

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB/m)	Margin - CAV (dB)	Limit - CAV (dBuV/m)
2485.960000	45.7	1000.0	1000.000	V	33.2	8.3	54.0
2486.320000	45.7	1000.0	1000.000	V	33.2	8.3	54.0
2487.280000	45.8	1000.0	1000.000	V	33.2	8.2	54.0

Tested by:

Jason Wu

Reviewed by:

Jacky Chen

20190524

20190527

Appendix B.10: Test Results of Conducted Emission on AC Mains

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

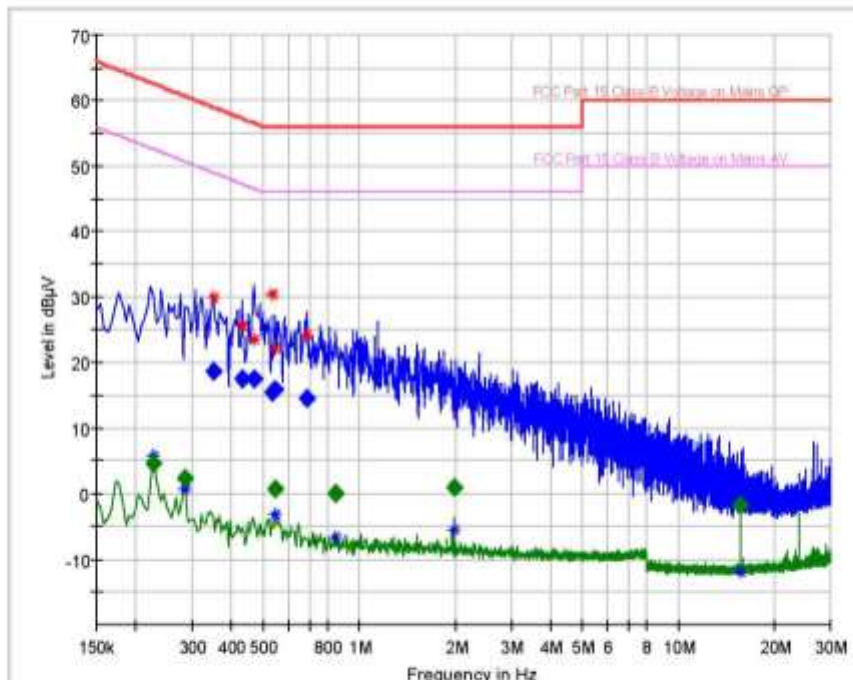
EMC Test Record (EMISSION)

Test Information

Manufacturer:
Test Item: Radio cassette recorder
Identification: VBB-25
Test Standard: FCC Part 15
Test Detail: Mains Emission
Operation Mode: BT
Climate Condition: 21 °C, 50 %RH; 101 kPa.
Test Voltage/ Freq.: AC 120 V / 60 Hz
Port / Line: AC Mains(L1+N)
Receipt No.: 170107513
Report No.: /
Result: Pass
Comment: /

Hardware Setup: 1phase LISN ENV216 to ESCI 3
Level Unit: dBµV

Subrange	Detectors	IF Bandwidth	Step Size	Meas. Time	Receiver
150kHz - 30MHz	Peak; Average	9kHz	4.5kHz	10ms	ESCI 3



Tested by: Jason Wu
20190617

Reviewed by: Jacky Chen
20190618

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Final Result

Frequency (MHz)	QuasiPeak (dB μ V)	CAverage (dB μ V)	Limit (dB μ V)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.226500	---	4.64	52.58	47.93	1000.	9.000	L1	ON	9.7
0.285000	---	2.38	50.67	48.29	1000.	9.000	N	ON	9.6
0.348000	18.56	---	59.01	40.45	1000.	9.000	N	ON	9.6
0.429000	17.53	---	57.27	39.74	1000.	9.000	N	ON	9.7
0.469500	17.42	---	56.52	39.11	1000.	9.000	N	ON	9.7
0.532500	15.46	---	56.00	40.54	1000.	9.000	L1	ON	9.7
0.546000	15.90	---	56.00	40.10	1000.	9.000	L1	ON	9.7
0.546000	---	0.82	46.00	45.18	1000.	9.000	N	ON	9.7
0.685500	14.55	---	56.00	41.45	1000.	9.000	N	ON	9.7
0.847500	---	0.02	46.00	45.98	1000.	9.000	N	ON	9.7
1.977000	---	0.98	46.00	45.02	1000.	9.000	N	ON	9.8
15.670500	---	-1.91	50.00	51.91	1000.	9.000	L1	ON	10.3

Tested by: Jason Wu

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Reviewed by: 

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