



Test Report

Product Name : Sub-1GHz RF Transmitter Flash MCU

Model No. : BCM-68F2130-X02

Applicant : HOLTEK SEMICONDUCTOR INC

Address : No.3, Creation Rd. II, Science Park , HsinChu 300,
Taiwan, R.O.C.

Date of Receipt : Jun. 18, 2019

Issued Date : Jun. 24, 2019

Report No. : 1960240A-TSSRP01V02

Report Version : V1.0

The test results relate only to the samples tested.

The test report shall not be reproduced except in full without the written approval of DEKRA Testing and Certification Co., Ltd.

Test Report

Issued Date : Jun. 24, 2019

Report No. : 1960240A-TSSRP01V02



Product Name : Sub-1GHz RF Transmitter Flash MCU
 Applicant : HOLTEK SEMICONDUCTOR INC
 Address : No.3, Creation Rd. II, Science Park , HsinChu 300, Taiwan,
 R.O.C.
 Manufacturer : HOLTEK SEMICONDUCTOR INC
 Model No. : BCM-68F2130-X02
 EUT Voltage : DC 3V
 Applicable Standard : FCC 433MHz Band:
 FCC CFR Title 47 Part 15 Subpart B: 2018 Class B,
 ANSI C63.4: 2014
 CE 433.92MHz Band:
 ETSI EN 300 220-2 V3.1.1 (2017-02)
 Laboratory Name : Hsin Chu Laboratory
 Address : No.372-2, Sec. 4, Zhongxing Rd., Zhudong Township,
 Hsinchu County 310, Taiwan, R.O.C.
 TEL: +886-3-582-8001 / FAX: +886-3-582-8958
 Test Result : Pass

Test Item		
FCC		
Radiated Emission	☒ Pass	☐ Fail
Duty Cycle	☒ Pass	☐ Fail
Occupied Bandwidth	☒ Pass	☐ Fail
On Time	☒ Pass	☐ Fail
CE		
Occupied Bandwidth	☒ Pass	☐ Fail
Duty cycle	☒ Pass	☐ Fail
Tx Out Of Band Emissions	☒ Pass	☐ Fail
Transient Power	☒ Pass	☐ Fail
Spurious emissions (Transmitter)	☒ Pass	☐ Fail



(Louis Hsu / Deputy Manager)



(Andy Tsai / Senior Engineer)

TABLE OF CONTENTS

Description	Page
1. List of Test Equipment	4
2. FCC Test Data	7
2.1. Radiated Emission	7
2.1.1. Test Result.....	7
2.2. Duty Cycle	13
2.2.1. Test Result.....	13
2.3. Occupied Bandwidth	14
2.3.1. Test Result.....	14
2.4. On Time	16
2.4.1. Test Result.....	16
3. CE Test Data	17
3.1. Occupied Bandwidth	17
3.1.1. Test Result.....	17
3.2. Duty cycle	19
3.2.1. Test Result.....	19
3.3. Tx Out Of Band Emissions	20
3.3.1. Test Result.....	20
3.4. Transient Power	21
3.4.1. Test Result.....	21
3.5. Spurious emissions (Transmitter).....	24
3.5.1. Test Result.....	24
Attachment 1	32
Test Setup Photograph.....	32
Attachment 2	34
EUT Photograph.....	34

1. List of Test Equipment

FCC:

Radiated Emissions / CB4-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal Analyzer	R&S	FSVA40	101455	2018/11/05	2019/11/04
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/12/21	2019/12/20
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2019/03/15	2020/03/14
Bilog Antenna	Teseq	CBL6112D	23191	2019/06/17	2020/06/16
Horn Antenna	Schwarzbeck	BBHA 9120D	639	2019/05/28	2020/05/27
Horn Antenna	Schwarzbeck	BBHA 9170	202	2019/01/16	2020/01/15
Pre-Amplifier	DEKRA	AP-025C	201801236	2019/02/18	2020/02/17
Pre-Amplifier	EMCI	EMC11830I	980366	2018/12/21	2019/12/20
Pre-Amplifier	DEKRA	AP-400C	201801231	2018/12/05	2019/12/04
Horn Antenna	Schwarzbeck	BBHA 9120D	01656	2018/10/17	2019/10/16
Band Reject Filter	Micro-Tronics	BRM50702	G192	2019/03/27	2020/03/26
Signal Analyzer	R&S	FSV40	101435	2018/07/19	2019/07/18
Coaxial Cable	Suhner	SF104_SF106_ SF104_SF102(23.5m)	CB4_1	2018/08/21	2019/08/20

Duty Cycle / SR10-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/12/21	2019/12/20
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2019/03/15	2020/03/14
Temperature & Humidity Test Chamber	WIT	TH-1S-B	1082101	2019/01/18	2020/01/17

Occupied Bandwidth / SR10-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/12/21	2019/12/20
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2019/03/15	2020/03/14
Temperature & Humidity Test Chamber	WIT	TH-1S-B	1082101	2019/01/18	2020/01/17

On Time / SR10-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/12/21	2019/12/20
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2019/03/15	2020/03/14
Temperature & Humidity Test Chamber	WIT	TH-1S-B	1082101	2019/01/18	2020/01/17

CE:

Occupied Bandwidth / SR10-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/12/21	2019/12/20
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2019/03/15	2020/03/14
Temperature & Humidity Test Chamber	WIT	TH-1S-B	1082101	2019/01/18	2020/01/17

Duty Cycle / SR10-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/12/21	2019/12/20
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2019/03/15	2020/03/14
Temperature & Humidity Test Chamber	WIT	TH-1S-B	1082101	2019/01/18	2020/01/17

Tx Out Of Band Emissions / SR10-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/12/21	2019/12/20
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2019/03/15	2020/03/14
Temperature & Humidity Test Chamber	WIT	TH-1S-B	1082101	2019/01/18	2020/01/17

Transient Power / SR10-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/12/21	2019/12/20
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2019/03/15	2020/03/14
Temperature & Humidity Test Chamber	WIT	TH-1S-B	1082101	2019/01/18	2020/01/17

Spurious emissions (Transmitter) / CB3-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal Analyzer	R&S	FSVA40	101455	2018/11/05	2019/11/04
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/12/21	2019/12/20
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2019/03/15	2020/03/14
Bilog Antenna	Teseq	CBL6112D	23191	2019/06/17	2020/06/16
Horn Antenna	Schwarzbeck	BBHA 9120D	639	2019/05/28	2020/05/27
Horn Antenna	Schwarzbeck	BBHA 9170	202	2019/01/16	2020/01/15
Pre-Amplifier	EMCI	EMC003240	980324	2019/01/25	2020/01/24
Pre-Amplifier	EMCI	EMC0031835	980233	2019/01/07	2020/01/06
Pre-Amplifier	EMCI	EMC01820I	980364	2018/10/12	2019/10/11
Band Reject Filter	Micro-Tronics	BRM50702	G192	2019/03/27	2020/03/26
Coaxial Cable	Suhner	SF104_SF104_ SF104_SF104(19m)	CB3_1	2018/09/20	2019/08/19

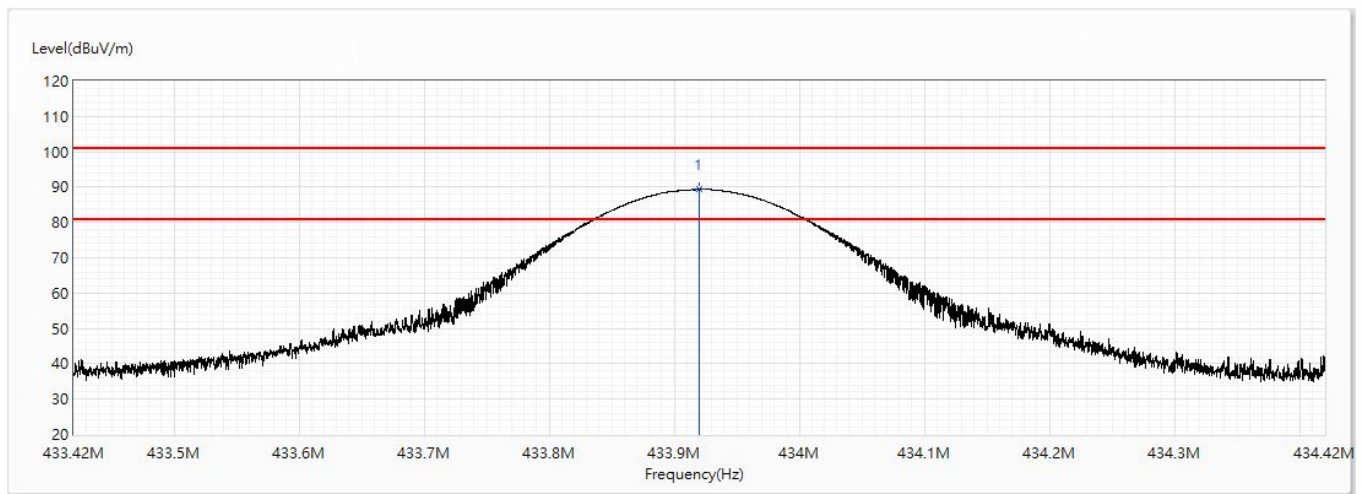
Note: All equipment upon which need to calibrated are with calibration period of 1 year.

2. FCC Test Data

2.1. Radiated Emission

2.1.1. Test Result

Site :	CB4-H	Engineer :	ANDY
Model No :	BCM-68F2130-X02	Test Date :	2019/5/30
Test Voltage :	DC 3V	Polarity :	Horizontal
Test Mode :	Mode 1: Transmit Mode		
Note :			

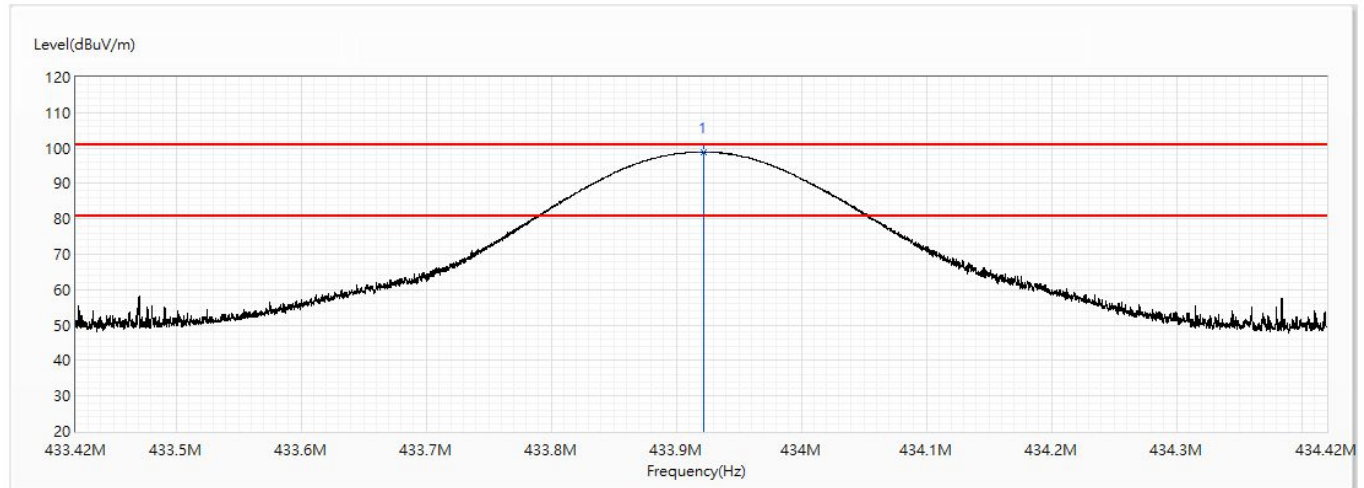


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	433.92	89.36	100.82	-11.46	104.23	-14.87	PK
	433.92	70.31	80.82	-10.51	85.18	-14.87	AV

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission above 13GHz were not included is because their levels are lower than 20dB form limit.

Site :	CB4-H	Engineer :	ANDY
Model No :	BCM-68F2130-X02	Test Date :	2019/5/30
Test Voltage :	DC 3V	Polarity :	Vertical
Test Mode :	Mode 1: Transmit Mode		
Note :			

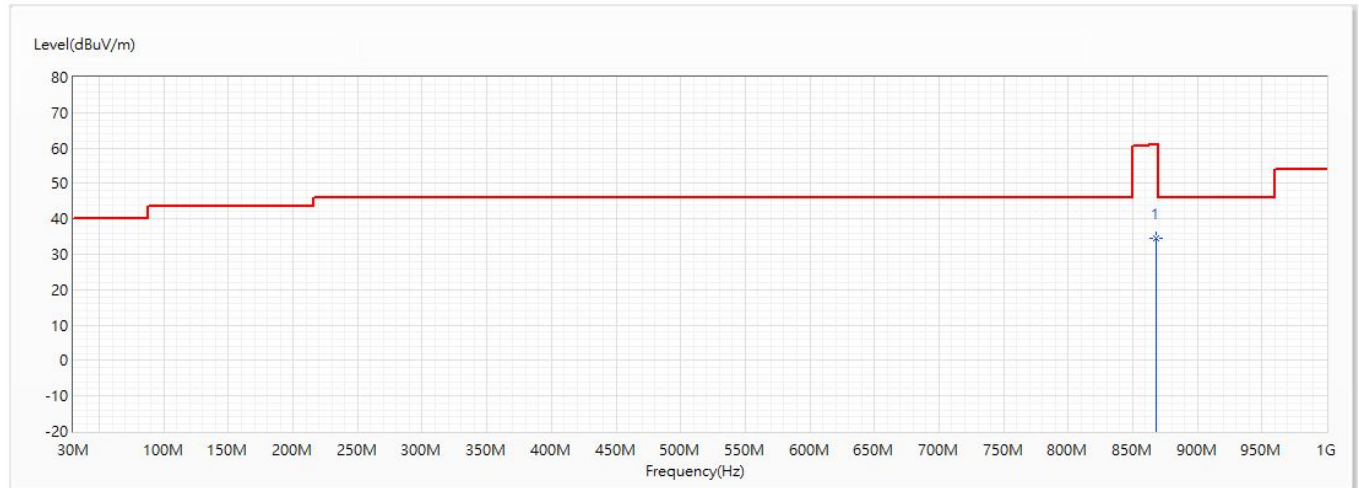


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	433.922	98.89	100.82	-1.93	113.76	-14.87	PK
	433.922	79.84	80.82	-0.98	94.71	-14.87	AV

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission above 13GHz were not included is because their levels are lower than 20dB form limit.

Site :	CB4-H	Engineer :	ANDY
Model No :	BCM-68F2130-X02	Test Date :	2019/5/30
Test Voltage :	DC 3V	Polarity :	Horizontal
Test Mode :	Mode 1: Transmit Mode		
Note :			

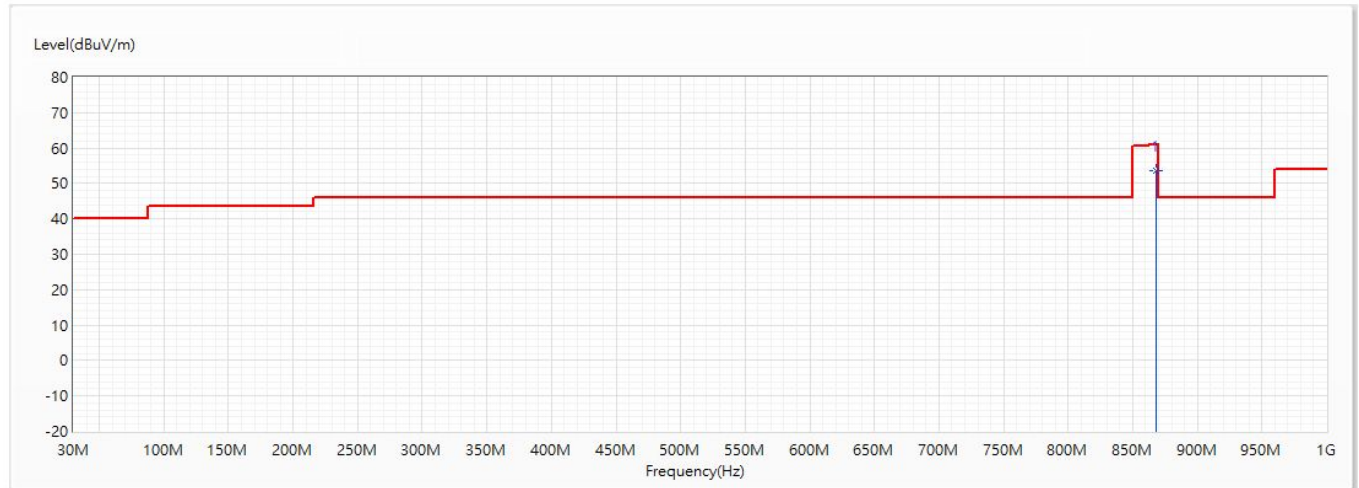


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	867.959	34.65	60.82	-26.17	44.19	-9.54	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission above 13GHz were not included is because their levels are lower than 20dB form limit.

Site :	CB4-H	Engineer :	ANDY
Model No :	BCM-68F2130-X02	Test Date :	2019/5/30
Test Voltage :	DC 3V	Polarity :	Vertical
Test Mode :	Mode 1: Transmit Mode		
Note :			



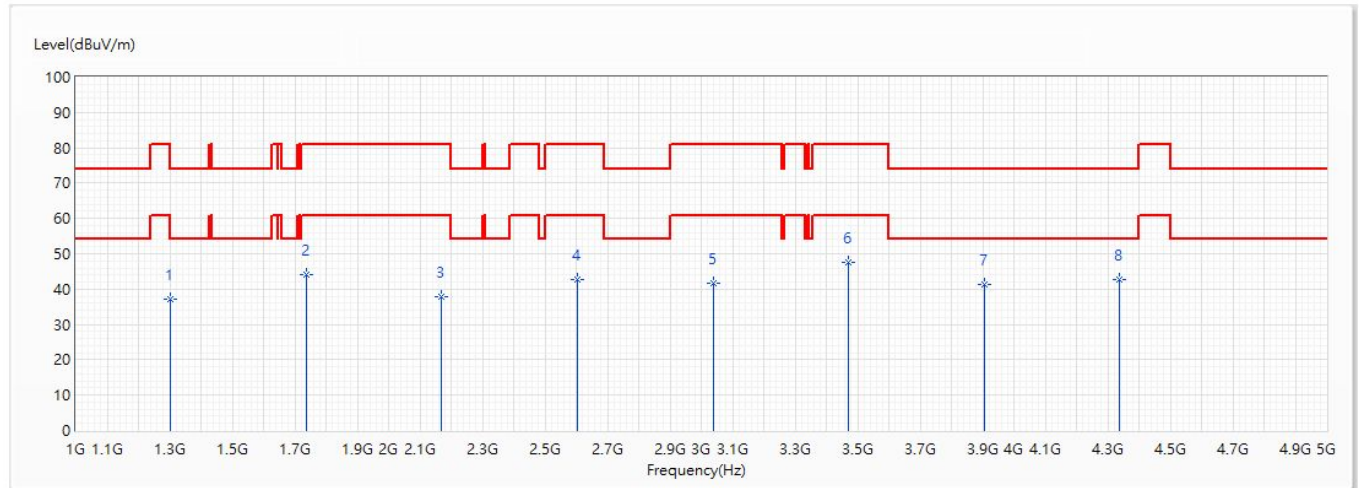
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	867.959	53.71	60.82	-7.11	63.25	-9.54	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission above 13GHz were not included is because their levels are lower than 20dB form limit.

Above 1GHz Spurious

Site :	CB4-H	Engineer :	Andy
Model No :	BCM-68F2130-X02	Test Date :	2019/5/30
Test Voltage :	DC 3V	Polarity :	Horizontal
Test Mode :	Mode 1: Transmit Mode		
Note :			

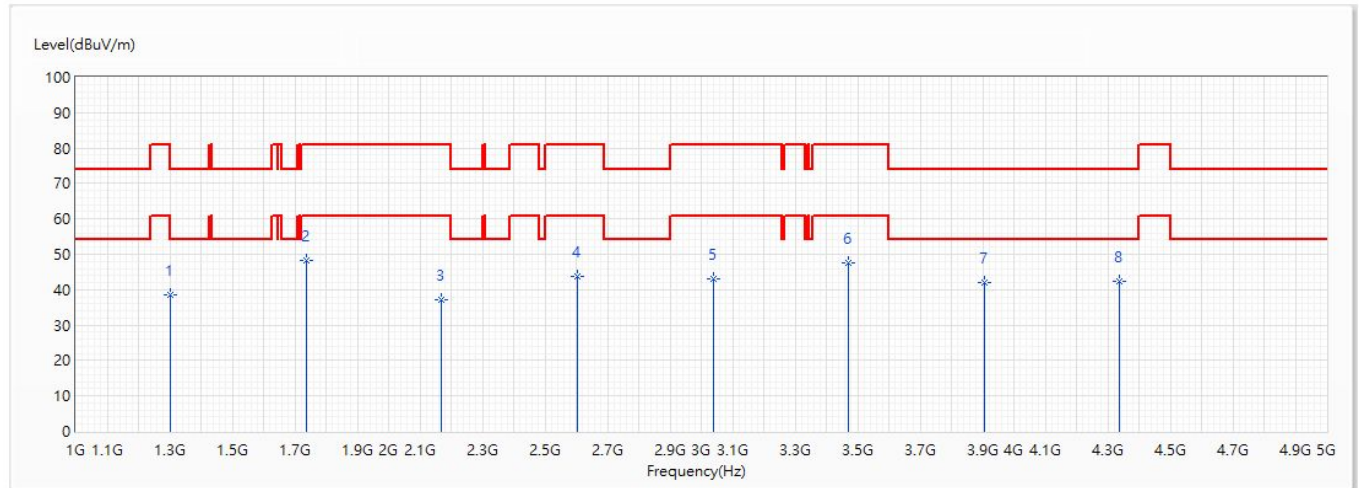


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	1301.76	37.26	74.00	-36.74	40.61	-3.35	PK
2	1735.68	44.20	80.83	-36.62	45.73	-1.53	PK
3	2169.6	37.70	80.83	-43.12	37.85	-0.15	PK
4	2603.333	42.86	80.83	-37.97	41.01	1.85	PK
5	3037.44	41.78	80.83	-39.05	38.12	3.66	PK
6	3471.667	47.65	80.83	-33.17	42.83	4.82	PK
7	3905.28	41.35	74.00	-32.65	34.56	6.79	PK
* 8	4339.2	42.60	74.00	-31.40	34.43	8.17	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission above 13GHz were not included is because their levels are lower than 20dB form limit.

Site :	CB4-H	Engineer :	Andy
Model No :	BCM-68F2130-X02	Test Date :	2019/5/30
Test Voltage :	DC 3V	Polarity :	Vertical
Test Mode :	Mode 1: Transmit Mode		
Note :			



No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	1301.76	38.69	74.00	-35.31	42.04	-3.35	PK
2	1735.68	48.32	80.83	-32.50	49.85	-1.53	PK
3	2169.6	37.06	80.83	-43.76	37.21	-0.15	PK
4	2603.667	43.68	80.83	-37.15	41.83	1.85	PK
5	3037.44	43.17	80.83	-37.66	39.51	3.66	PK
6	3471.667	47.65	80.83	-33.17	42.83	4.82	PK
7	3905.28	41.91	74.00	-32.09	35.12	6.79	PK
* 8	4339.2	42.26	74.00	-31.74	34.09	8.17	PK

Note:

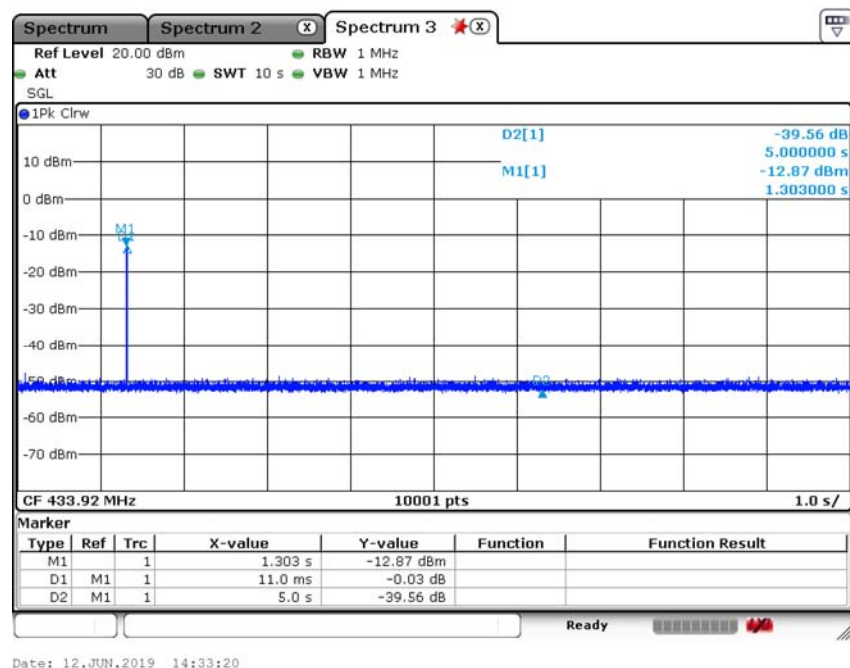
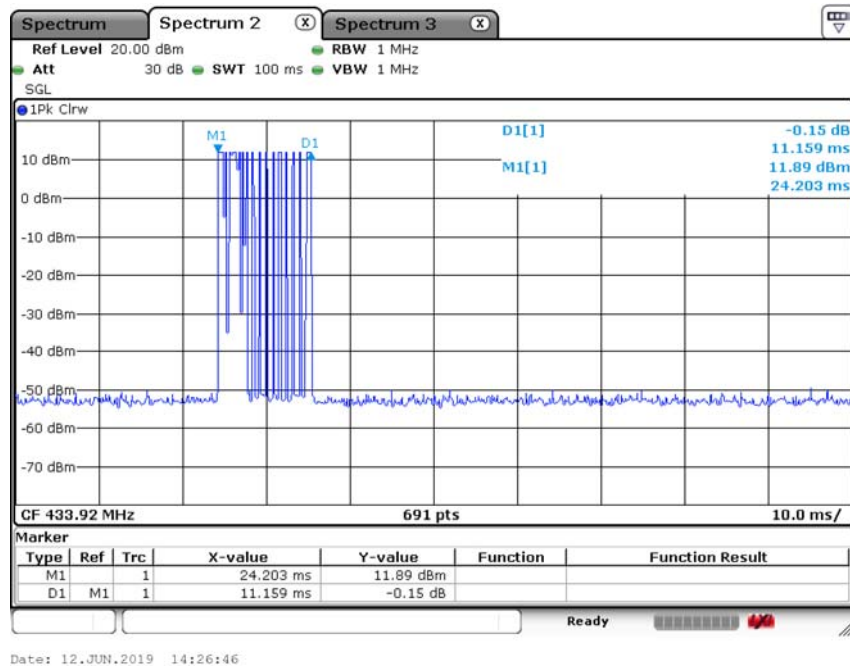
1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. The emission above 13GHz were not included is because their levels are lower than 20dB form limit.

2.2. Duty Cycle

2.2.1. Test Result

Model No	BCM-68F2130-X02		
Test Item	Duty Cycle		
Test Mode	Mode 1: Transmit Mode		
Date of Test	2019/06/12	Test Site	SR10-H

Frequency	On Time(ms)	On+Off Time(ms)	Duty Cycle(%)	Duty Factor(dB)
433.92	11.159	100.000	11.16%	-19.05



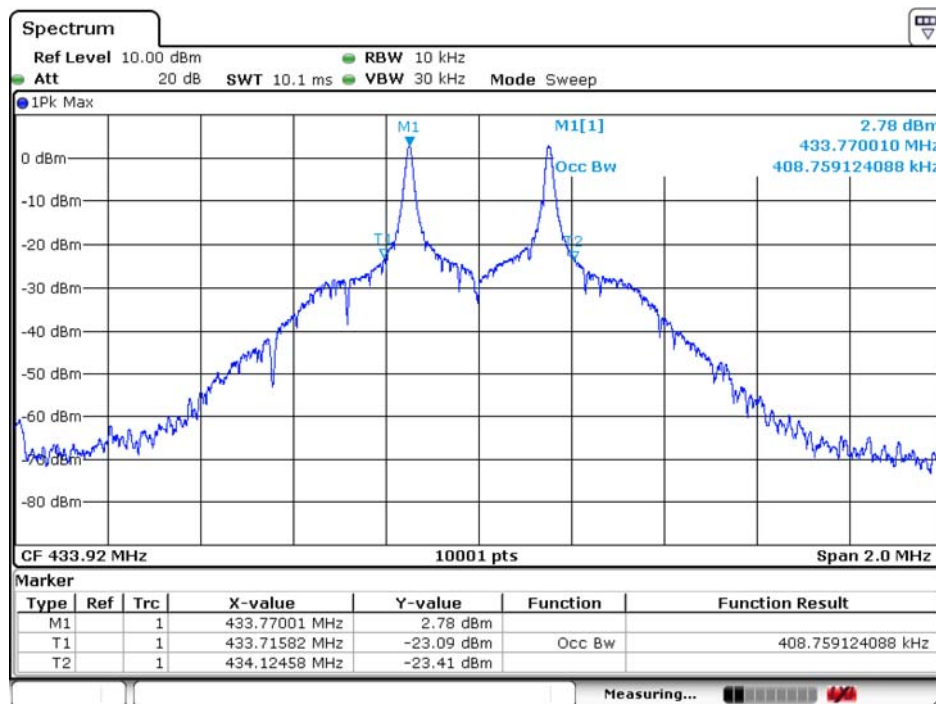
2.3. Occupied Bandwidth

2.3.1. Test Result

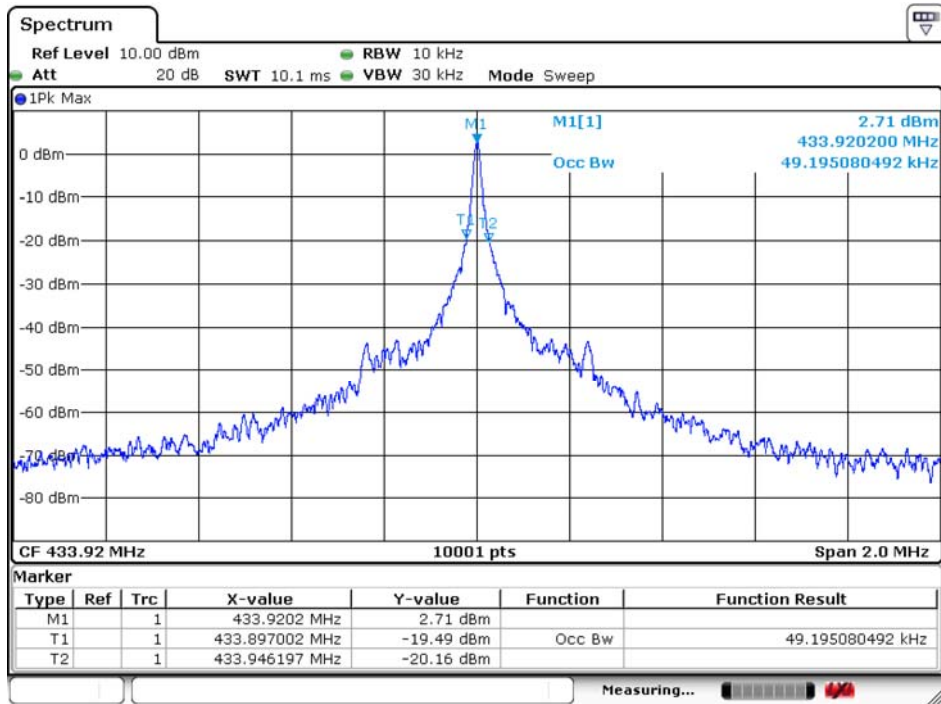
Model No	BCM-68F2130-X02		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: Transmit Mode		
Date of Test	2019/05/30	Test Site	SR10-H

Modulation	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
FSK	433.92	0.409	<1.0848	Pass
OOK	433.92	0.049	<1.0848	Pass

FSK



Date: 30.MAY.2019 15:42:20

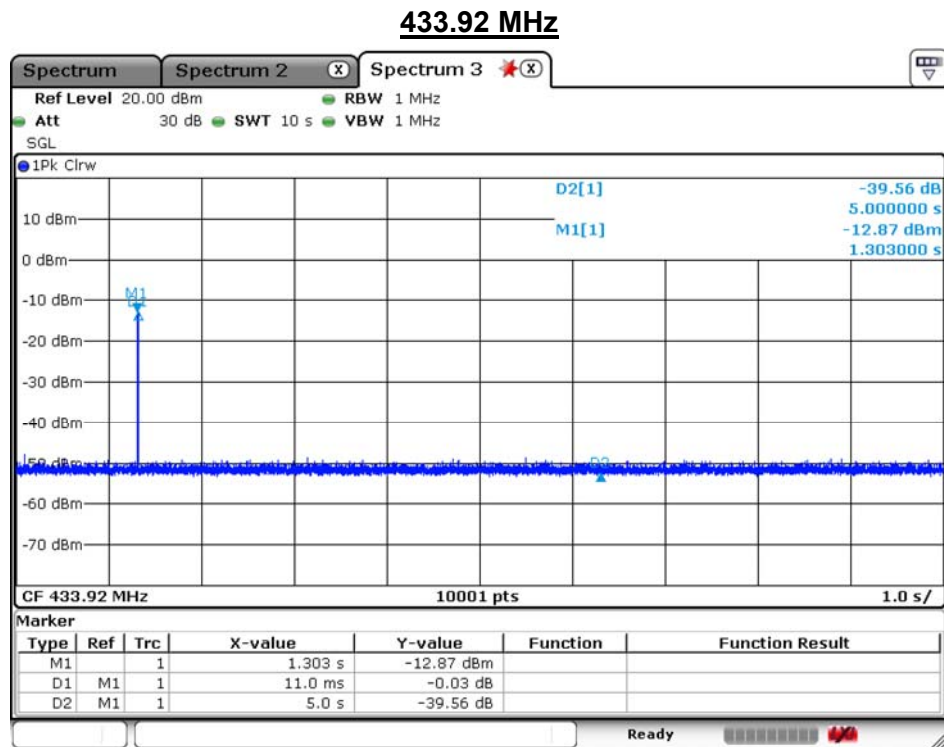
OOK

Date: 30.MAY.2019 15:45:26

2.4. On Time

2.4.1. Test Result

Model No	BCM-68F2130-X02		
Test Item	On Time		
Test Mode	Mode 1: Transmit Mode		
Date of Test	2019/06/12	Test Site	SR10-H



Date: 12.JUN.2019 14:33:20

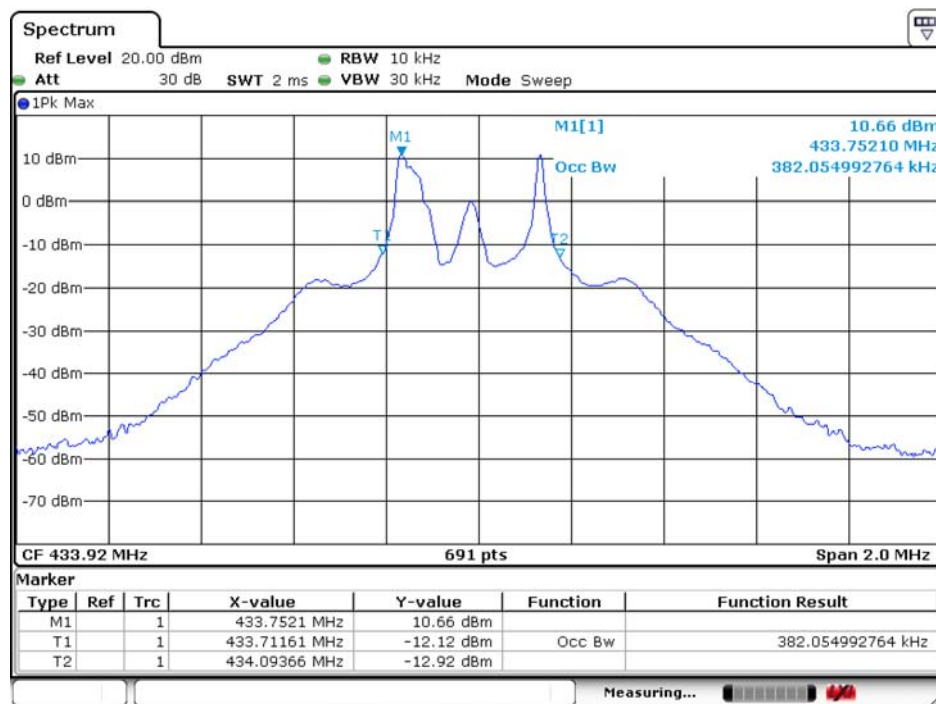
3. CE Test Data

3.1. Occupied Bandwidth

3.1.1. Test Result

Model No	BCM-68F2130-X02		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: Transmit Mode		
Date of Test	2019/06/06	Test Site	SR10-H

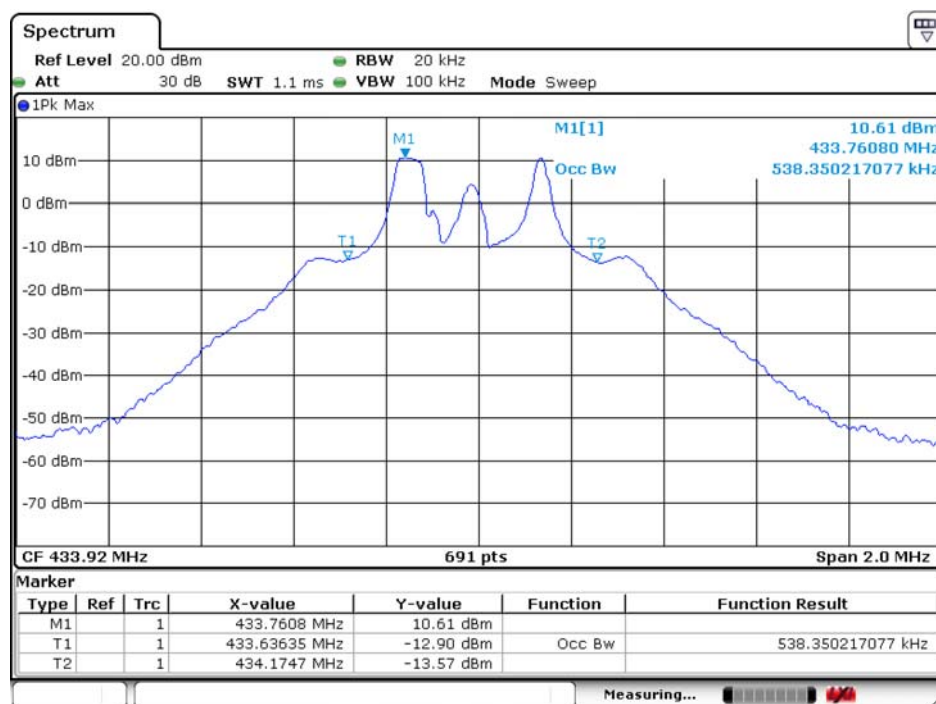
Test conditions		Frequency (MHz)	Measurement Bandwidth (kHz)	Limit (kHz)
Tnom(25) °C	Vnom(3)V	433.92	382.054	>25



Date: 6 JUN 2019 13:29:09

Model No	BCM-68F2130-X02		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: Transmit Mode		
Date of Test	2019/06/06	Test Site	SR10-H

Test conditions		Frequency (MHz)	Measurement Bandwidth (kHz)	Limit (kHz)
Tnom(25) °C	Vnom(3)V	433.92	538.350	>25



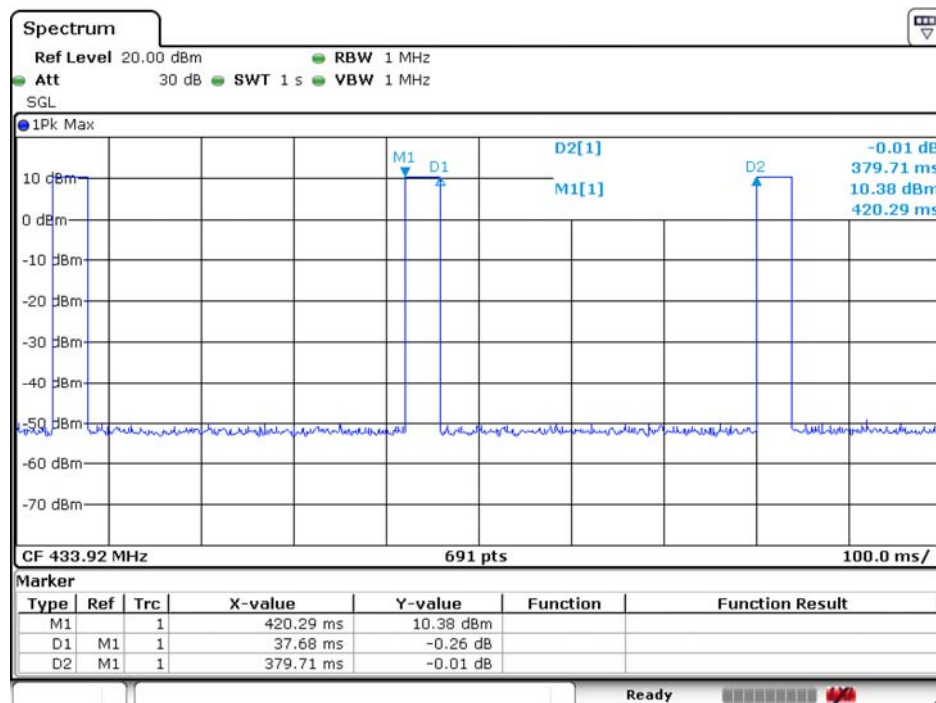
Date: 6 JUN 2019 13:25:05

3.2. Duty cycle

3.2.1. Test Result

Model No	BCM-68F2130-X02				
Test Item	Duty cycle				
Test Mode	Mode 1: Transmit Mode				
Date of Test	2019/06/06	Test Site	SR10-H		

Frequency (MHz)	Ton (s)	Toff (s)	Tobs (s)	Ton_cum (s)	DCT
433.92	0.037	0.379	1.000	0.111	11.100%



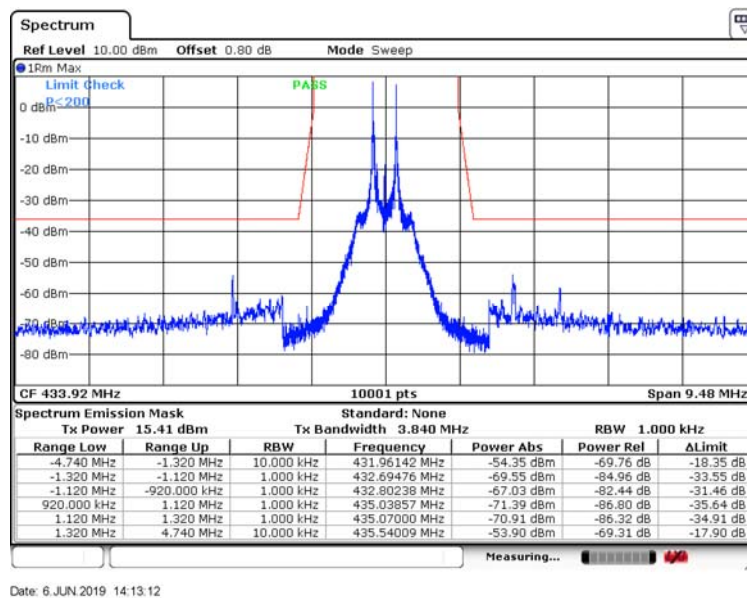
Date: 6 JUN 2019 12:04:18

3.3. Tx Out Of Band Emissions

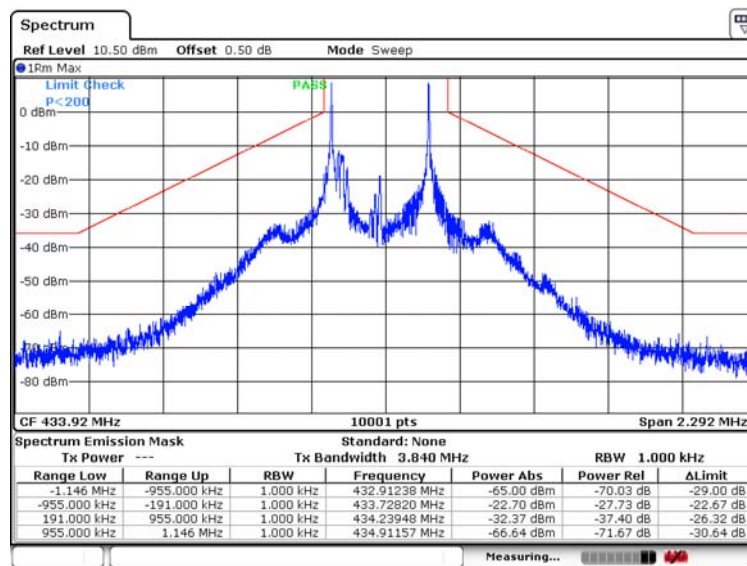
3.3.1. Test Result

Model No	BCM-68F2130-X02		
Test Item	Tx Out Of Band Emissions		
Test Mode	Mode 1: Transmit Mode		
Date of Test	2019/06/06	Test Site	SR10-H

Test Conditions		Frequency (MHz)	Result
Tnom(25) °C	Vnom(3)V	433.92	Pass



Date: 6 JUN 2019 14:13:12



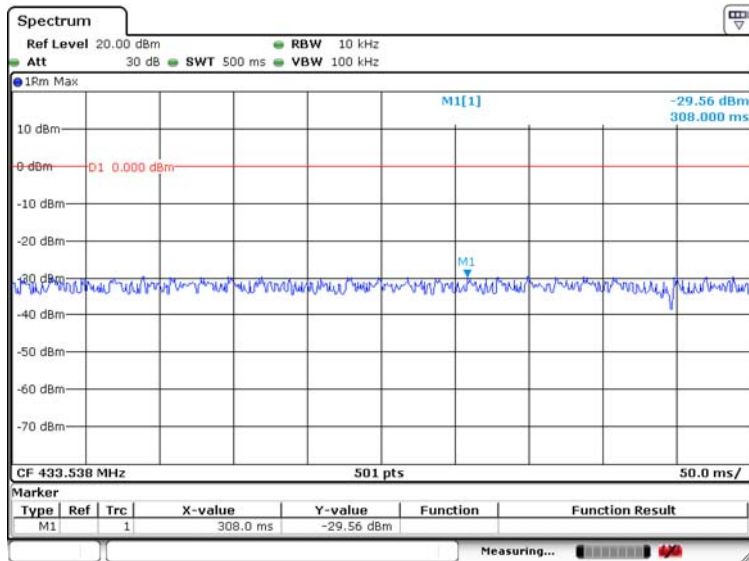
Date: 6 JUN 2019 14:09:47

3.4. Transient Power

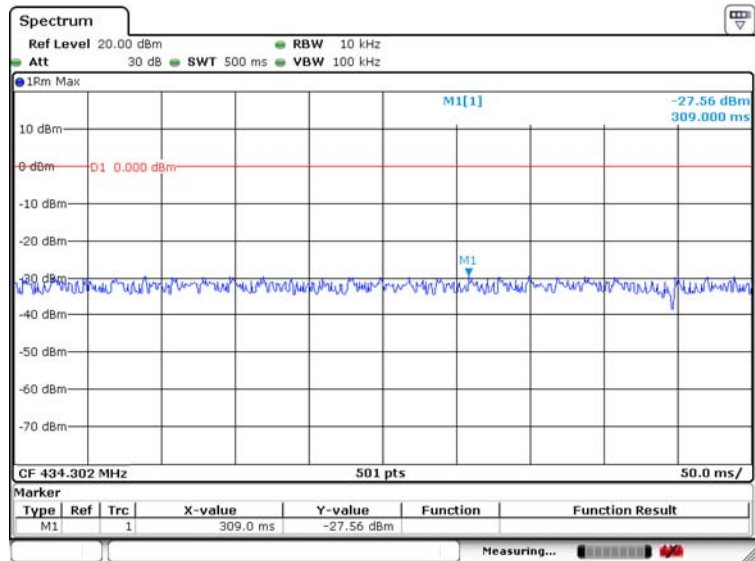
3.4.1. Test Result

Model No	BCM-68F2130-X02		
Test Item	Transient Power		
Test Mode	Mode 1: Transmit Mode		
Date of Test	2019/06/06	Test Site	SR10-H

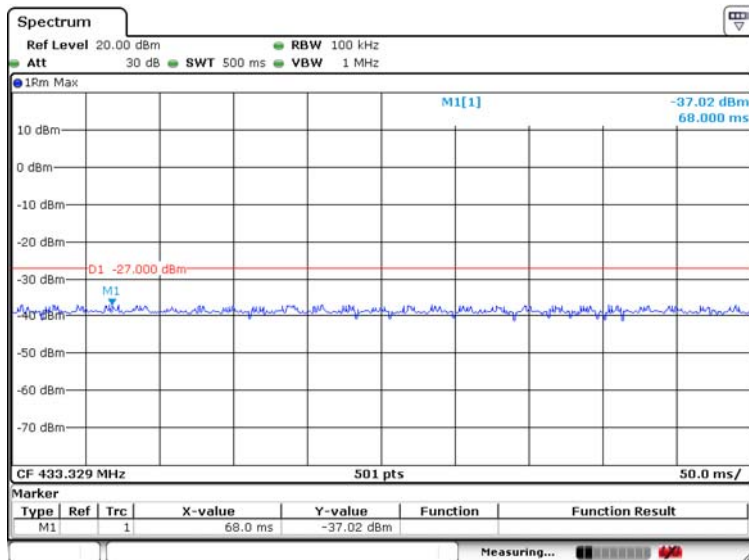
Measure Frequency (MHz)	Reading Level (dBm)	Limit (dBm)	Result
432.538	-29.56	0	Pass
434.302	-27.56	0	Pass
433.329	-37.02	-27	Pass
434.511	-39.50	-27	Pass
432.529	-54.86	-27	Pass
435.311	-53.04	-27	Pass

433.538 MHz

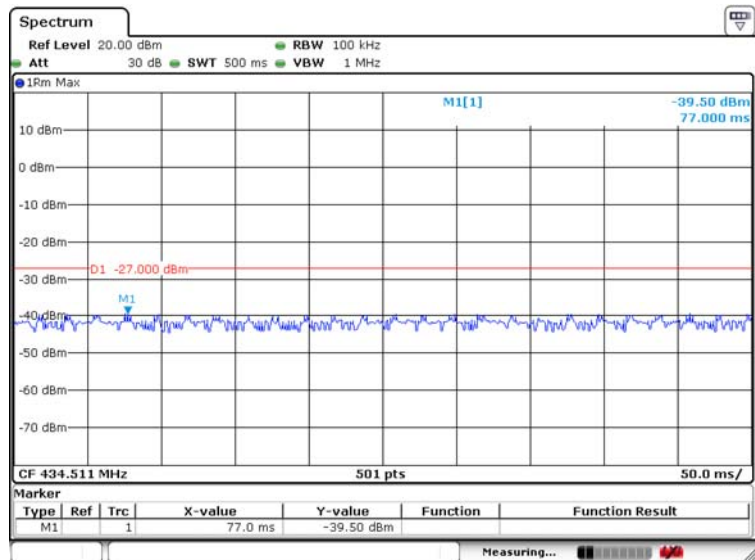
Date: 6 JUN 2019 13:53:19

434.302 MHz

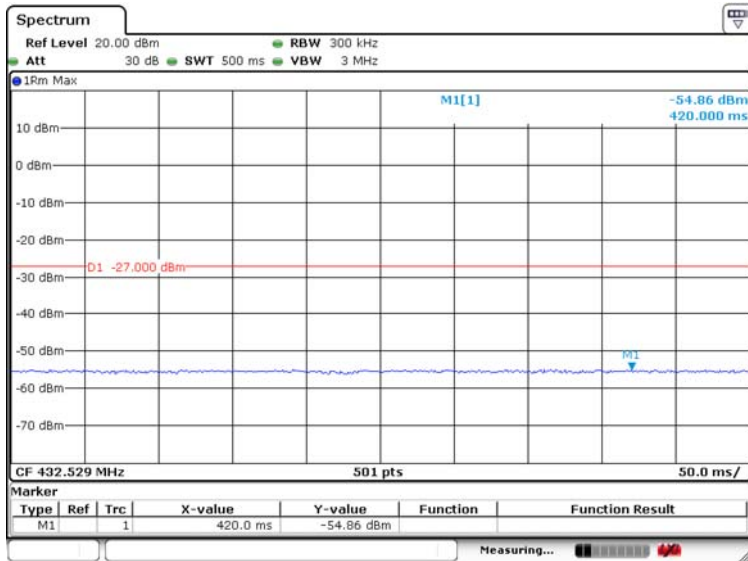
Date: 6 JUN 2019 13:53:19

433.329 MHz

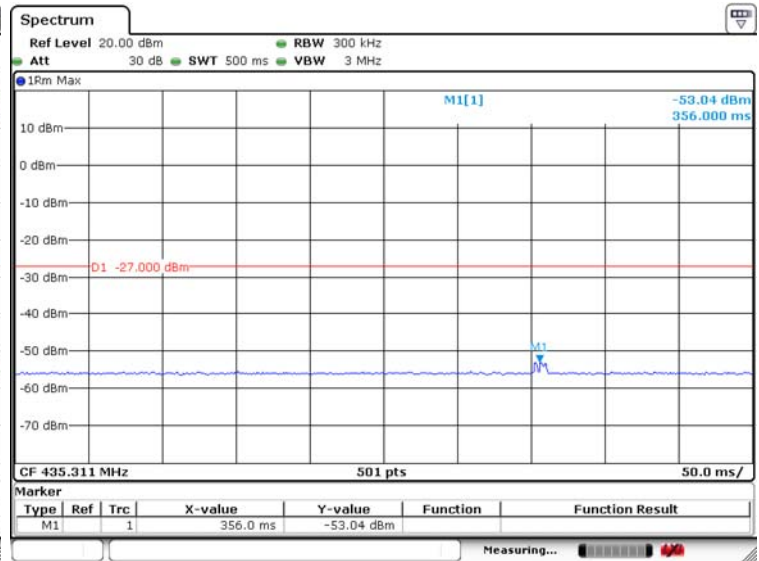
Date: 6 JUN 2019 13:47:51

434.511 MHz

Date: 6 JUN 2019 13:48:37

432.529 MHz

Date: 6 JUN 2019 13:49:23

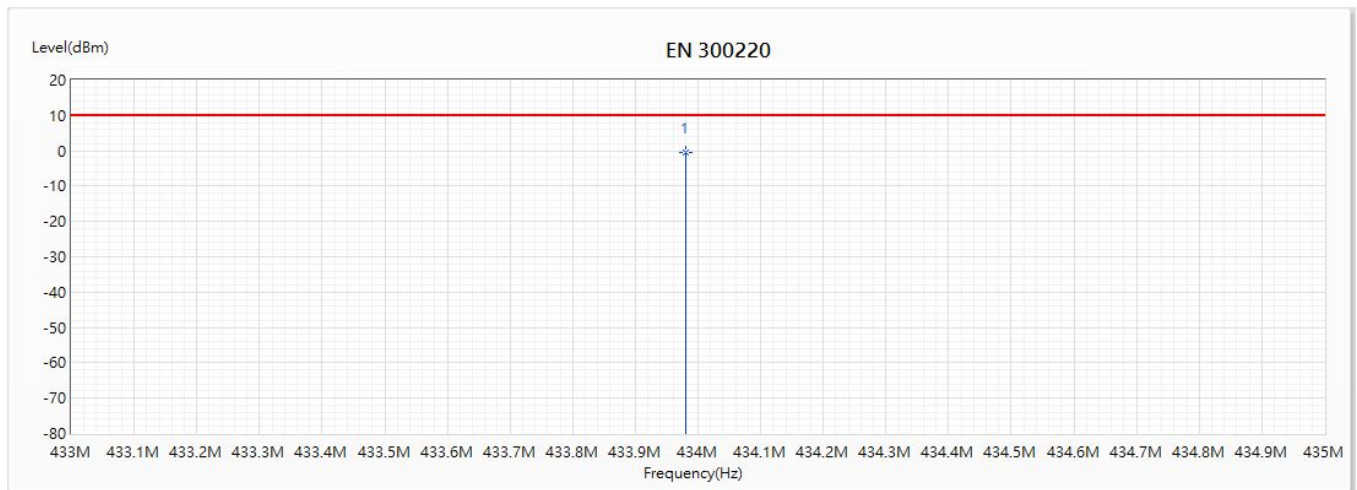
435.311 MHz

Date: 6 JUN 2019 13:49:58

3.5. Spurious emissions (Transmitter)

3.5.1. Test Result

Site :	CB3-H	Engineer :	Scott
Model No :	BCM-68F2130-X02	Test Date :	2019/5/30
Test Voltage :	DC 3V	Polarity :	Horizontal
Test Mode :	Mode 1: Transmit Mode		
Note :			

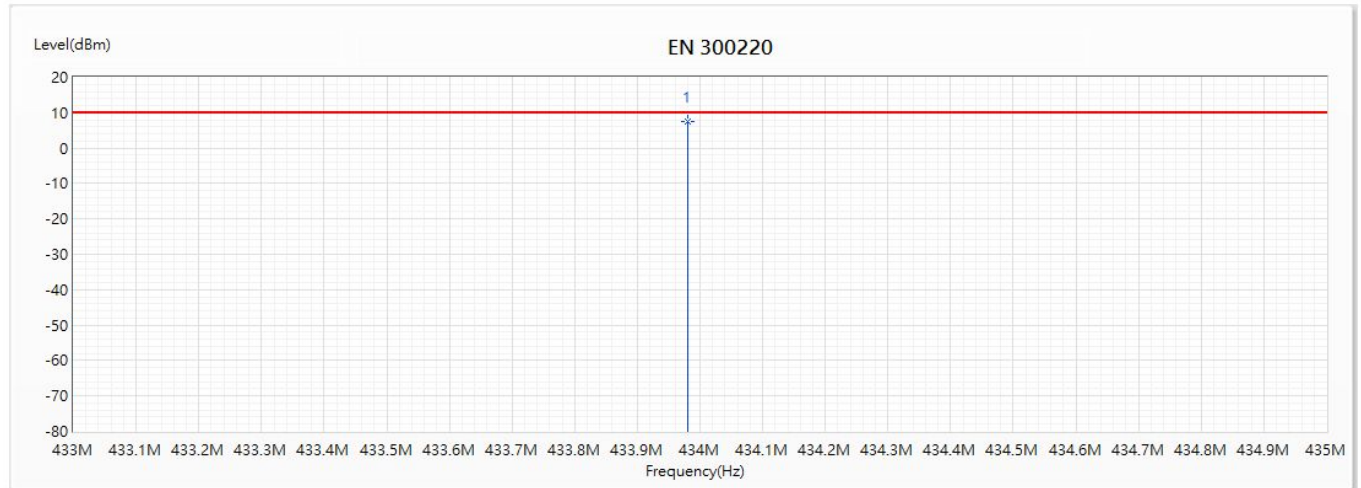


No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Reading Level (dBm)	Correct Factor (dB)	Detector Type
* 1	433.981	-0.55	10.00	-10.55	-36.98	36.43	PK

Note:

1. All reading levels is Peak value.
2. " * ", means this data is the worst value.
3. ERP = Reading Level + Correct Factor.

Site :	CB3-H	Engineer :	Scott
Model No :	BCM-68F2130-X02	Test Date :	2019/5/30
Test Voltage :	DC 3V	Polarity :	Vertical
Test Mode :	Mode 1: Transmit Mode		
Note :			

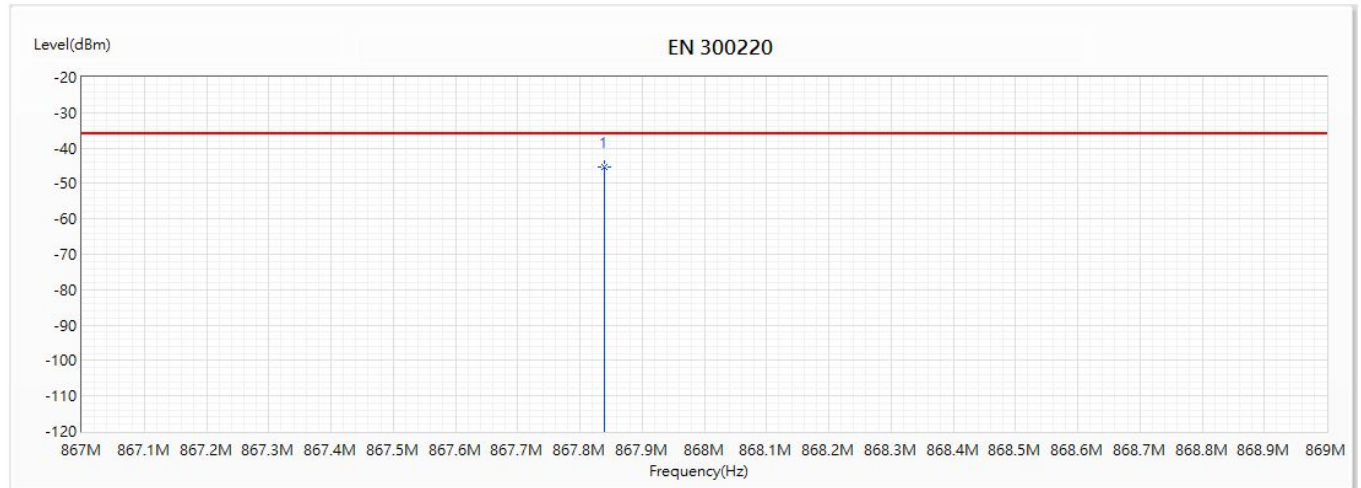


No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Reading Level (dBm)	Correct Factor (dB)	Detector Type
* 1	433.98	7.65	10.00	-2.35	-28.58	36.23	PK

Note:

1. All reading levels is Peak value.
2. " * ", means this data is the worst value.
3. ERP = Reading Level + Correct Factor.

Site :	CB3-H	Engineer :	Scott
Model No :	BCM-68F2130-X02	Test Date :	2019/5/30
Test Voltage :	DC 3V	Polarity :	Horizontal
Test Mode :	Mode 1: Transmit Mode		
Note :			

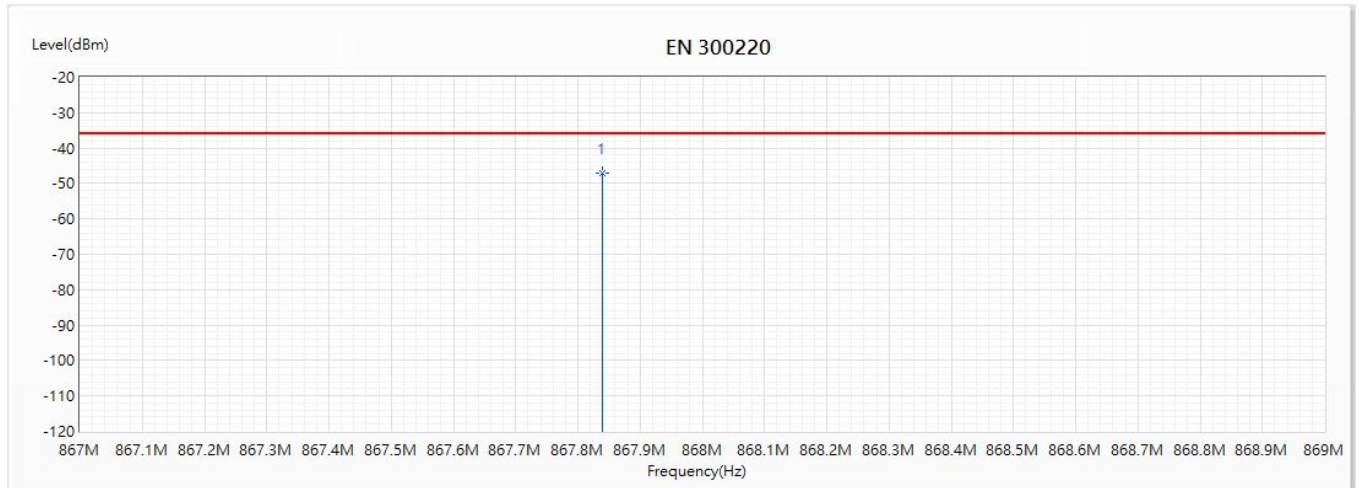


No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Reading Level (dBm)	Correct Factor (dB)	Detector Type
* 1	867.84	-45.19	-36.00	-9.19	-44.59	-0.60	PK

Note:

1. All reading levels is Peak value.
2. " * ", means this data is the worst value.
3. ERP = Reading Level + Correct Factor.

Site :	CB3-H	Engineer :	Scott
Model No :	BCM-68F2130-X02	Test Date :	2019/5/30
Test Voltage :	DC 3V	Polarity :	Vertical
Test Mode :	Mode 1: Transmit Mode		
Note :			



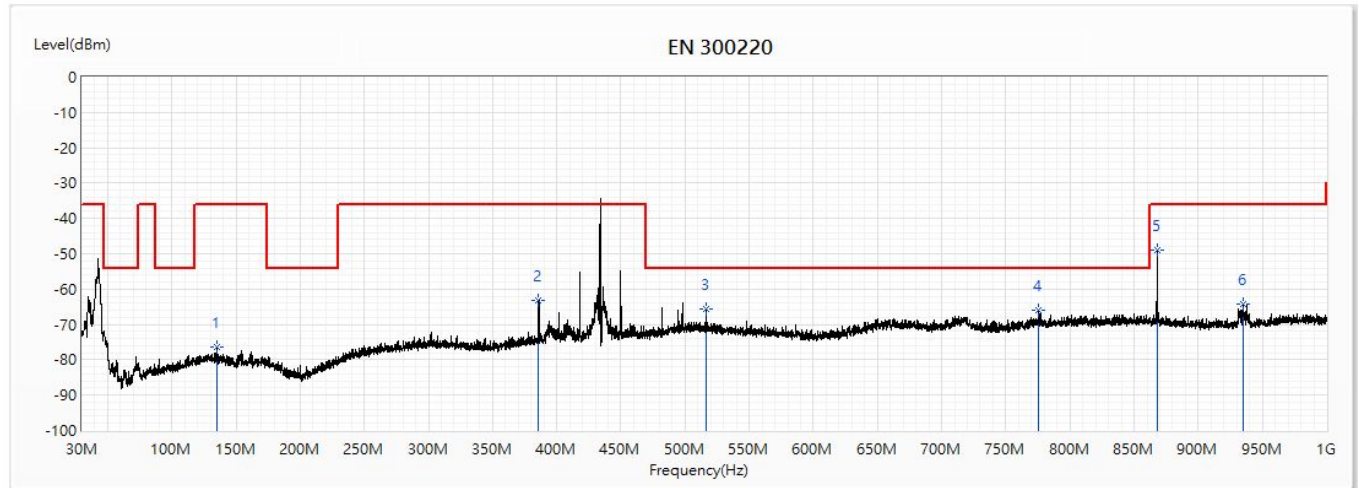
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Reading Level (dBm)	Correct Factor (dB)	Detector Type
* 1	867.84	-46.92	-36.00	-10.92	-45.91	-1.01	PK

Note:

1. All reading levels is Peak value.
2. " * ", means this data is the worst value.
3. ERP = Reading Level + Correct Factor.

30MHz-1GHz Spurious

Site :	CB3-H	Engineer :	Scott
Model No :	BCM-68F2130-X02	Test Date :	2019/5/30
Test Voltage :	DC 3V	Polarity :	Horizontal
Test Mode :	Mode 1: Transmit Mode		
Note :			

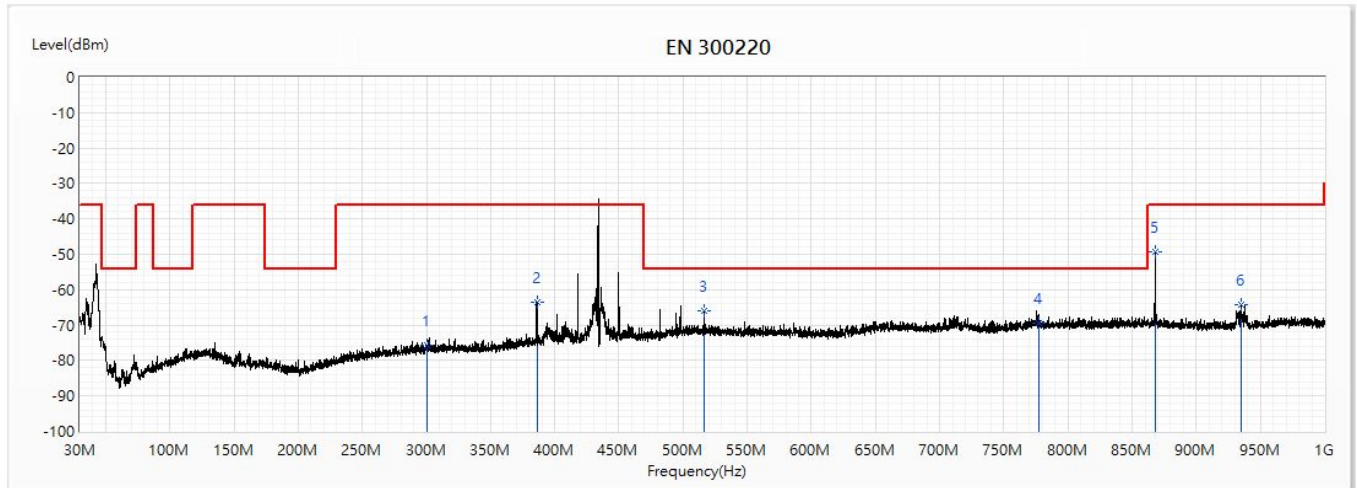


No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Reading Level (dBm)	Correct Factor (dB)	Detector Type
1	135.124	-76.37	-36.00	-40.37	-65.65	-10.72	PK
2	385.869	-63.19	-36.00	-27.19	-56.29	-6.90	PK
* 3	516.213	-65.51	-54.00	-11.51	-61.96	-3.55	PK
4	775.324	-65.83	-54.00	-11.83	-64.68	-1.15	PK
5	867.838	-49.03	-36.00	-13.03	-48.43	-0.60	PK
6	934.889	-64.07	-36.00	-28.07	-63.48	-0.59	PK

Note:

1. All reading levels is Peak value.
2. " * ", means this data is the worst value.
3. ERP = Reading Level + Correct Factor.

Site :	CB3-H	Engineer :	Scott
Model No :	BCM-68F2130-X02	Test Date :	2019/5/30
Test Voltage :	DC 3V	Polarity :	Vertical
Test Mode :	Mode 1: Transmit Mode		
Note :			



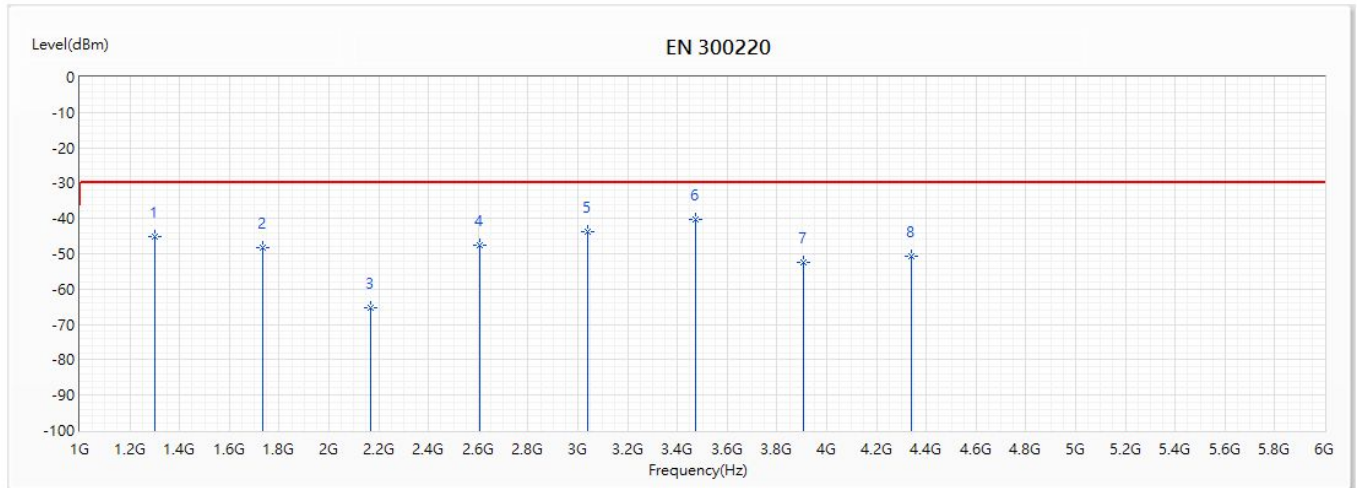
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Reading Level (dBm)	Correct Factor (dB)	Detector Type
1	300.024	-75.81	-36.00	-39.81	-65.87	-9.94	PK
2	385.99	-63.63	-36.00	-27.63	-56.44	-7.19	PK
* 3	516.213	-66.01	-54.00	-12.01	-61.95	-4.06	PK
4	777.628	-69.55	-54.00	-15.55	-68.22	-1.33	PK
5	867.838	-49.43	-36.00	-13.43	-48.42	-1.01	PK
6	934.889	-64.29	-36.00	-28.29	-63.48	-0.81	PK

Note:

1. All reading levels is Peak value.
2. " * ", means this data is the worst value.
3. ERP = Reading Level + Correct Factor.

Above 1GHz Spurious

Site :	CB3-H	Engineer :	Scott
Model No :	BCM-68F2130-X02	Test Date :	2019/5/30
Test Voltage :	DC 3V	Polarity :	Vertical
Test Mode :	Mode 1: Transmit Mode		
Note :			

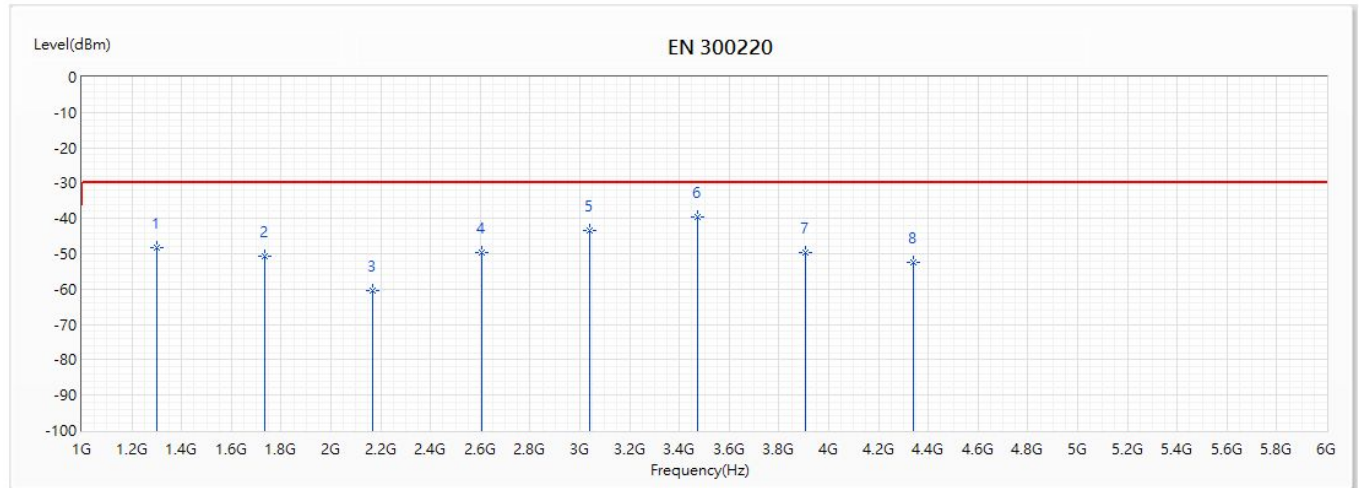


No	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Reading Level (dBm)	Correct Factor (dB)	Detector Type
1	1301.76	-44.97	-30.00	-14.97	-36.93	-8.04	PK
2	1735.68	-48.23	-30.00	-18.23	-41.63	-6.60	PK
3	2169.6	-65.16	-30.00	-35.16	-59.06	-6.10	PK
4	2603.52	-47.46	-30.00	-17.46	-41.85	-5.61	PK
5	3037.44	-43.58	-30.00	-13.58	-40.49	-3.09	PK
* 6	3471.36	-40.26	-30.00	-10.26	-39.00	-1.26	PK
7	3905.28	-52.41	-30.00	-22.41	-50.68	-1.73	PK
8	4339.2	-50.73	-30.00	-20.73	-50.60	-0.13	PK

Note:

1. All reading levels is Peak value.
2. " * ", means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor.
4. The emission above 13GHz were not included is because their levels are too low.

Site :	CB3-H	Engineer :	Scott
Model No :	BCM-68F2130-X02	Test Date :	2019/5/30
Test Voltage :	DC 3V	Polarity :	Horizontal
Test Mode :	Mode 1: Transmit Mode		
Note :			



No	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	Reading Level (dBm)	Correct Factor (dB)	Detector Type
1	1301.76	-48.20	-30.00	-18.20	-40.16	-8.04	PK
2	1735.68	-50.80	-30.00	-20.80	-44.20	-6.60	PK
3	2169.6	-60.46	-30.00	-30.46	-54.36	-6.10	PK
4	2603.52	-49.65	-30.00	-19.65	-44.04	-5.61	PK
5	3037.44	-43.53	-30.00	-13.53	-40.44	-3.09	PK
* 6	3471.36	-39.42	-30.00	-9.42	-38.16	-1.26	PK
7	3905.28	-49.67	-30.00	-19.67	-47.94	-1.73	PK
8	4339.2	-52.28	-30.00	-22.28	-52.15	-0.13	PK

Note:

1. All reading levels is Peak value.
2. " * ", means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor.
4. The emission above 13GHz were not included is because their levels are too low.

Attachment 1

➤ Test Setup Photograph

FCC

Test Mode : Mode 1: Transmit Mode

Description : Front View of Radiated Emissions Test Setup (Bi-Log)



Test Mode : Mode 1: Transmit Mode

Description : Back View of Radiated Emissions Test Setup (Bi-Log)



Test Mode : Mode 1: Transmit Mode

Description : Front View of Radiated Emissions Test Setup (Horn)



Test Mode : Mode 1: Transmit Mode

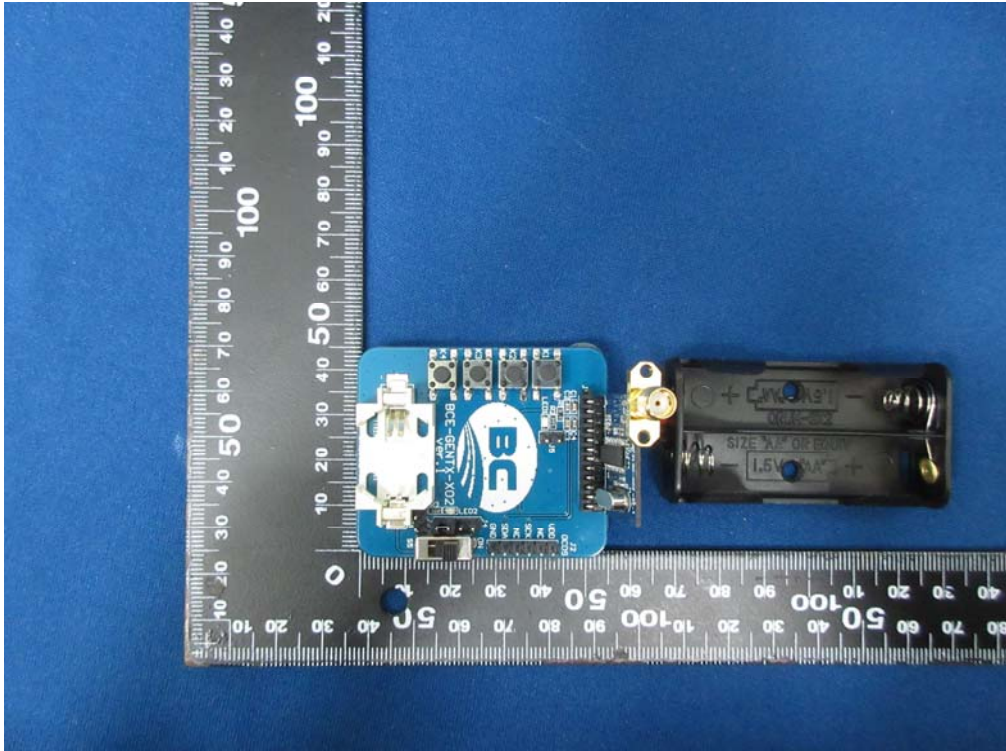
Description : Back View of Radiated Emissions Test Setup (Horn)



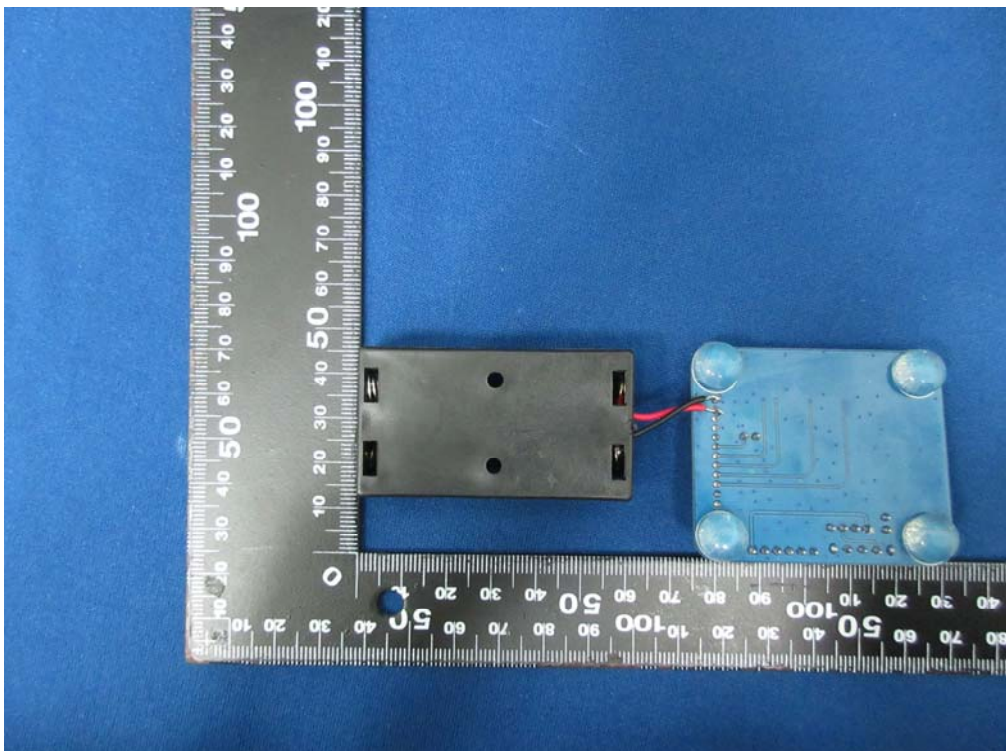
Attachment 2

➤ EUT Photograph

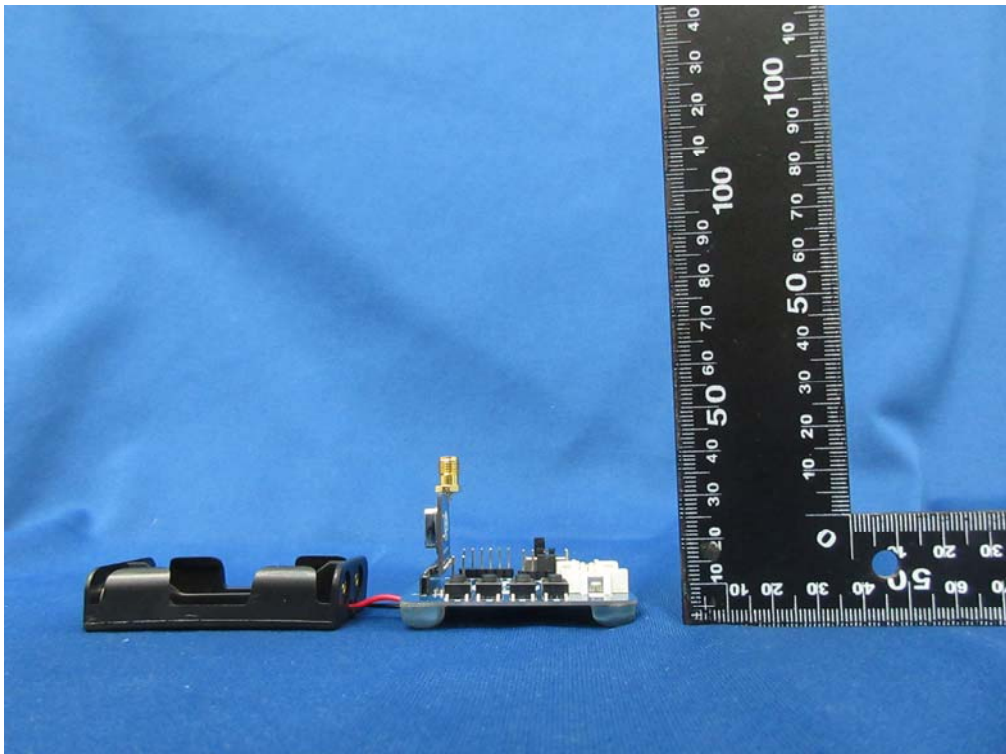
(1) EUT Photo



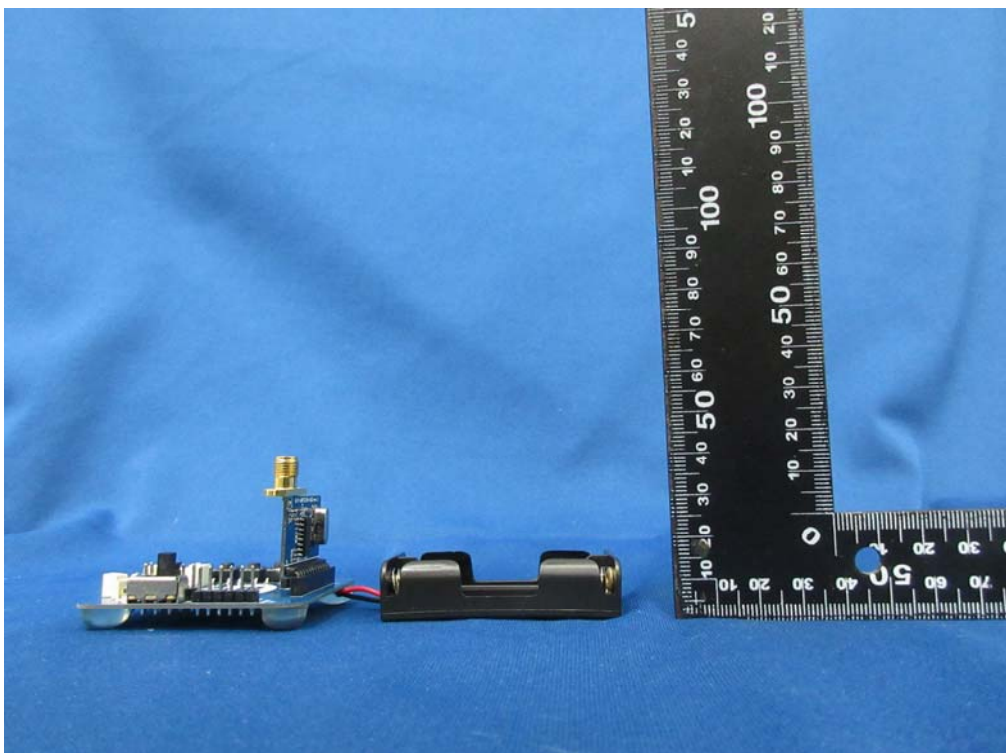
(2) EUT Photo



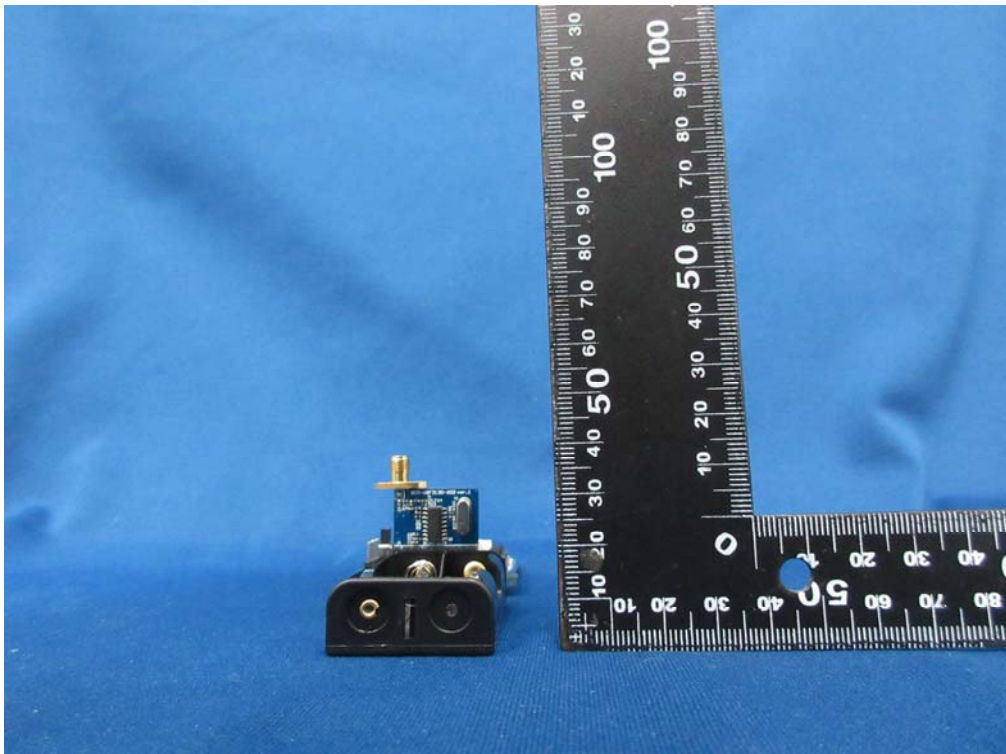
(3) EUT Photo



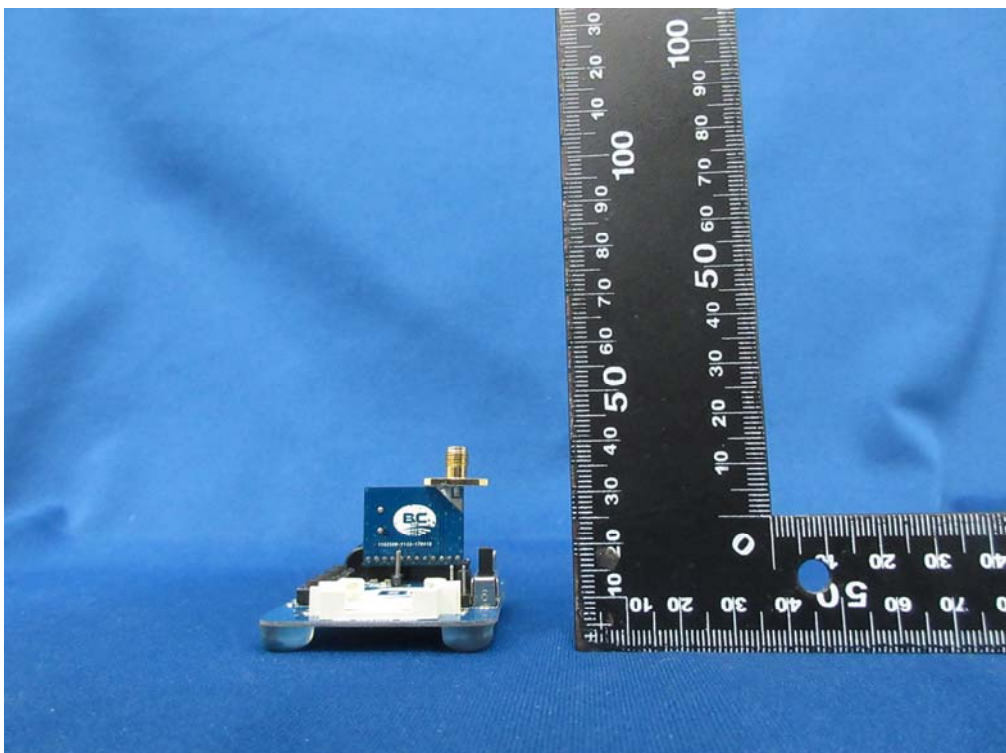
(4) EUT Photo



(5) EUT Photo



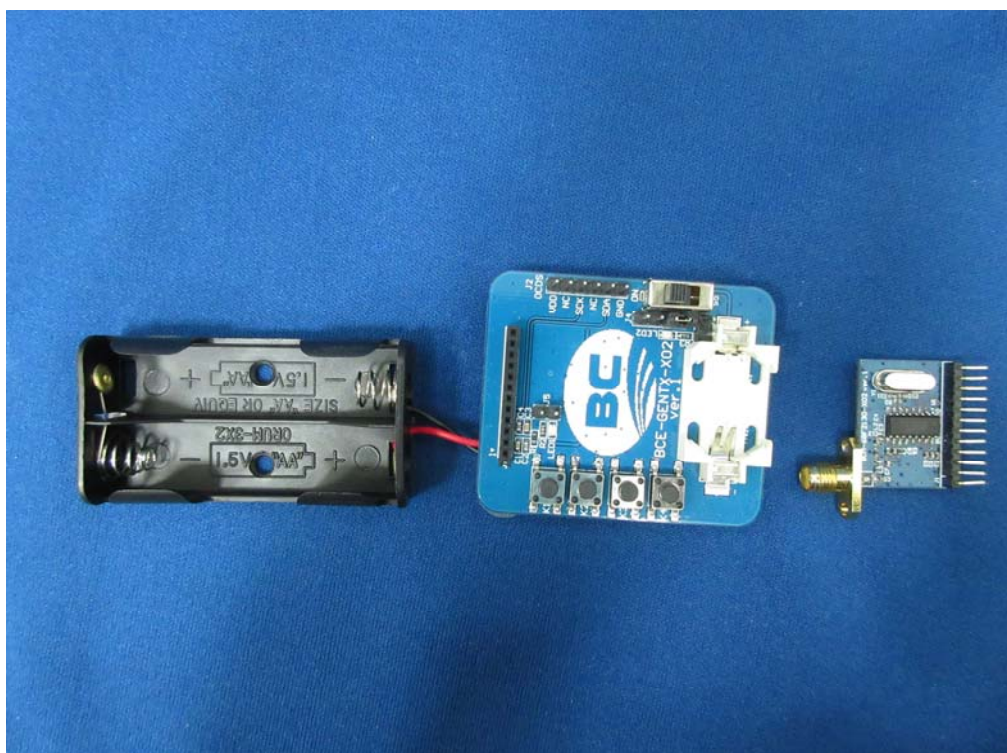
(6) EUT Photo



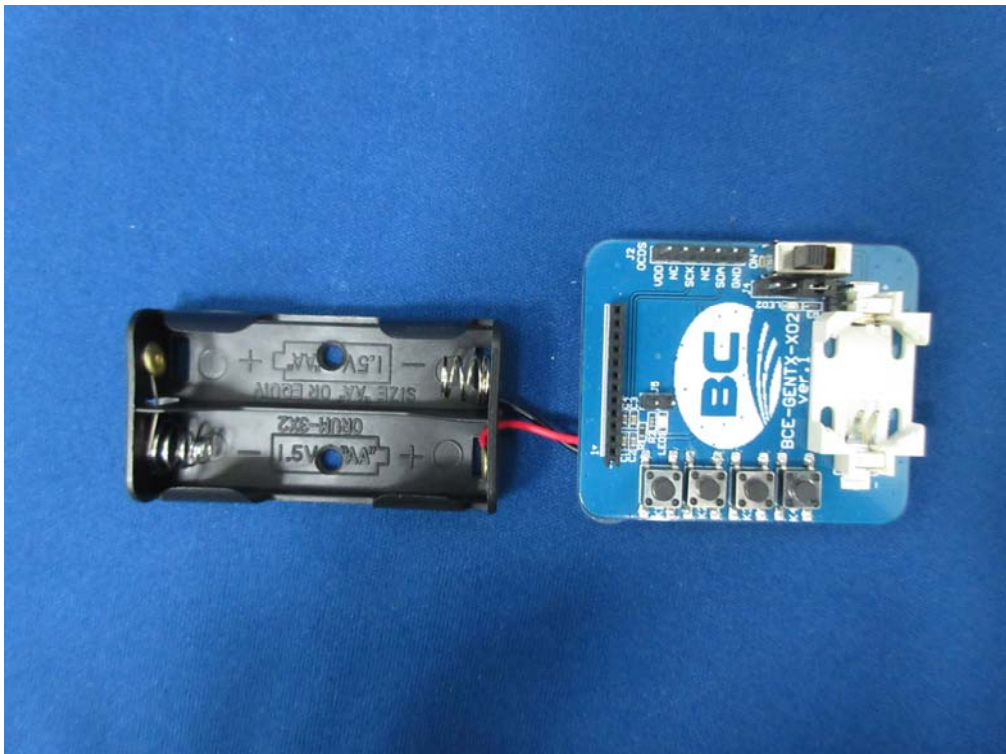
(7) EUT Photo (Antenna)



(8) EUT Photo



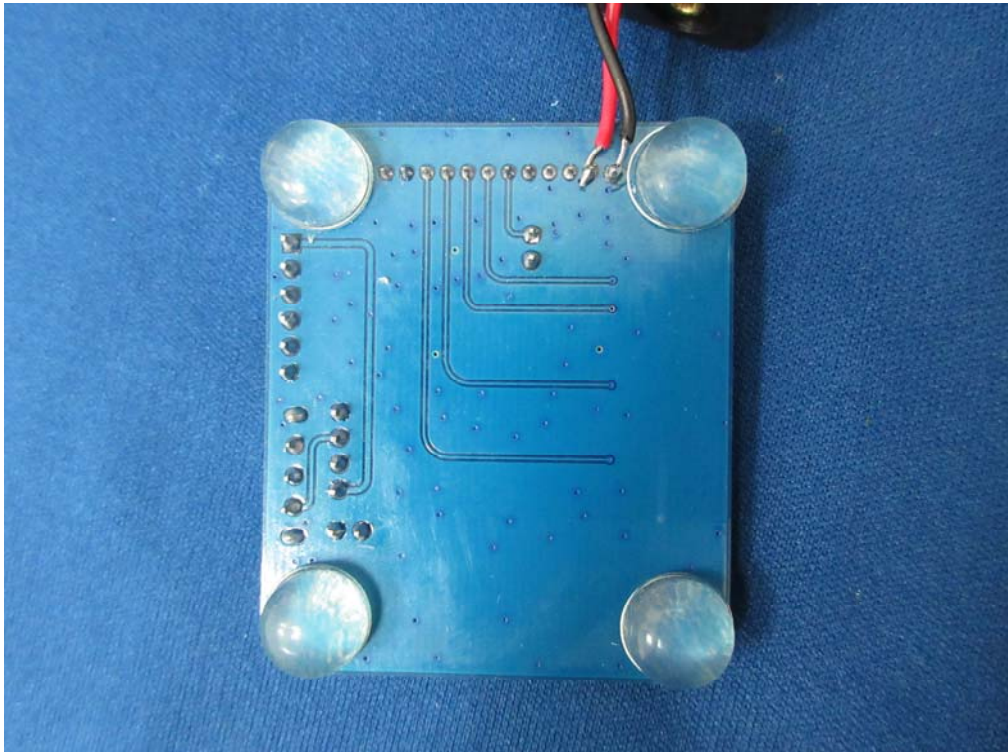
(9) EUT Photo



(10) EUT Photo



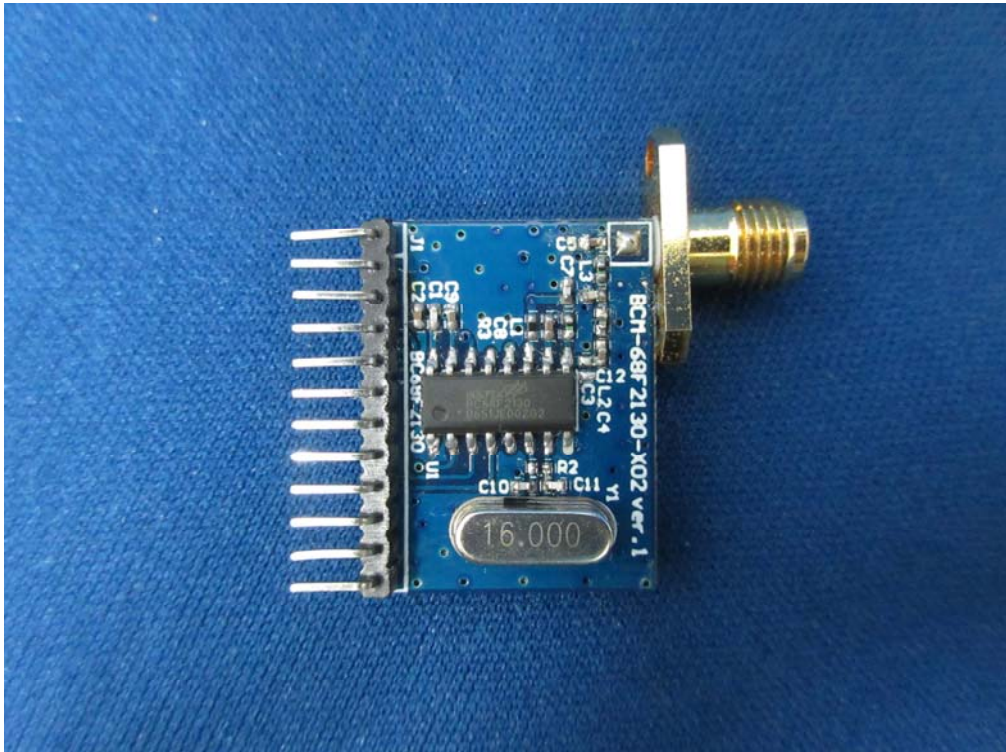
(11) EUT Photo



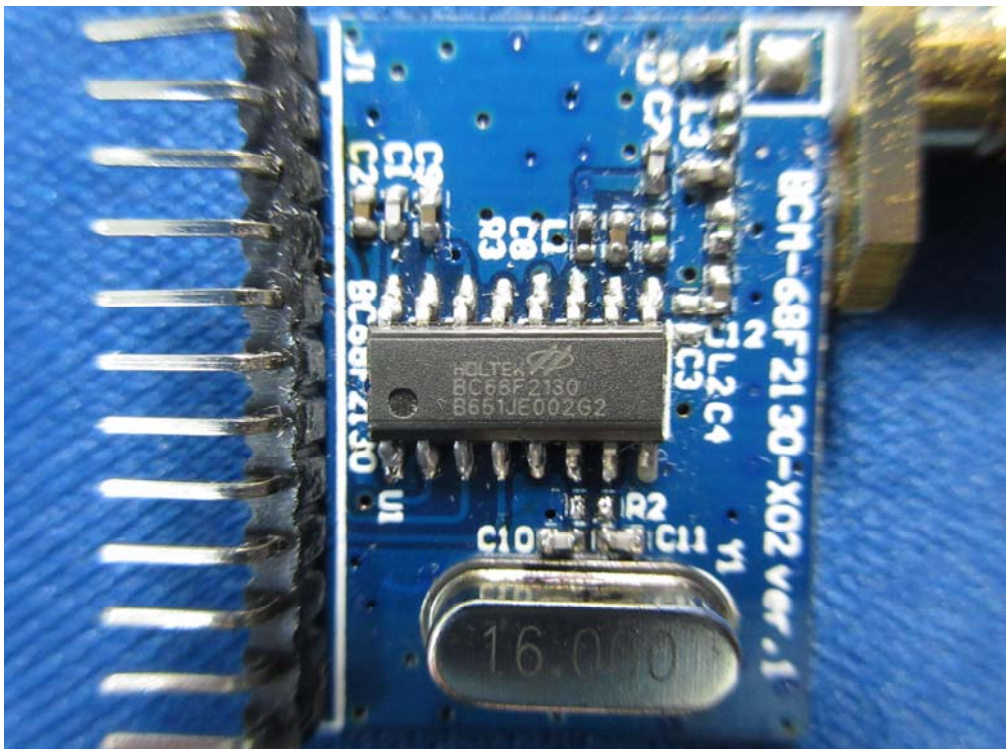
(12) EUT Photo



(13) EUT Photo



(14) EUT Photo



(15) EUT Photo

