



FCC Test Report

Equipment : Cloud Access Camera
Brand Name : ZYXEL
Model No. : CAM3115
FCC ID : I88CAM3115
Standard : 47 CFR FCC Part 15.247
Operating Band : 2400 MHz – 2483.5 MHz
Applicant : Zyxel Communications Corporation
No.2 Industry East RD. IX, Science Park, Hsinchu 30075,
Taiwan(R.O.C)
Manufacturer : Zyxel Communications Corporation
No.2 Industry East RD. IX, Science Park, Hsinchu 30075,
Taiwan(R.O.C)

The product sample received on Oct. 03, 2016 and completely tested on Jan. 10, 2017. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given inanes and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONALINC., the test report shall not be reproduced except in full.

Cliff Chang
SPORTON INTERNATIONAL INC.



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Summary of Test Result

Conformance Test Specifications				
Report Clause	Ref. Std. Clause	Description	Limit	Result
1.1.2	15.203	Antenna Requirement	FCC 15.203	Complied
3.1	15.207	AC Power-line Conducted Emissions	FCC 15.207	Complied
3.2	15.247(a)	20dB Bandwidth	15.247(a)	Complied
3.2	15.247(a)	Carrier Frequency Separation	15.247(a)	Complied
3.3	15.247(b)	Maximum Conducted Output Power	15.247(b)	Complied
3.4	15.247(a)	Number of Hopping Frequencies and Hopping Band edge	15.247(a)	Complied
3.5	15.247(a)	Time of Occupancy (Dwell Time)	15.247(a)	Complied
3.6	15.247(d)	Emissions in Non-restricted Frequency Bands	15.247(d)	Complied
3.7	15.247(d)	Emissions in Restricted Frequency Bands	Restricted Bands: FCC 15.209	Complied

Revision History

[illegible]

1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	Bluetooth Version	Ch. Frequency (MHz)	Channel Number
2400-2483.5	BR / EDR	2402-2480	0-78 [79]

Band	Mode	BWch (MHz)	Nant
2.4G	BT-EDR	1	1
2.4G	BT-EDR2	1	1
2.4G	BT-EDR3	1	1

Note:

- ♦ 2.4G is the 2.4GHz Band (2.4-2.4835GHz).
- ♦ Bluetooth BR uses a GFSK (1Mbps).
- ♦ Bluetooth EDR uses a combination of $\pi/4$ -DQPSK (2Mbps) and 8DPSK (3Mbps).
- ♦ BWch is the channel separation
- ♦ Nss-Min is the minimum number of spatial streams.
- ♦ Nant is the number of outputs. e.g., 2(2, 3) means have 2 outputs for port 2 and port 3. 2 means have 2 outputs for port 1 and port 2.

1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	LYNwave	ALA150-052027-000001	PIFA Antenna	I-PEX	2.43

Note: The EUT has an antenna only.

For 2.4GHz WLAN function:

For IEEE 802.11b/g/n mode <1TX/1RX>:

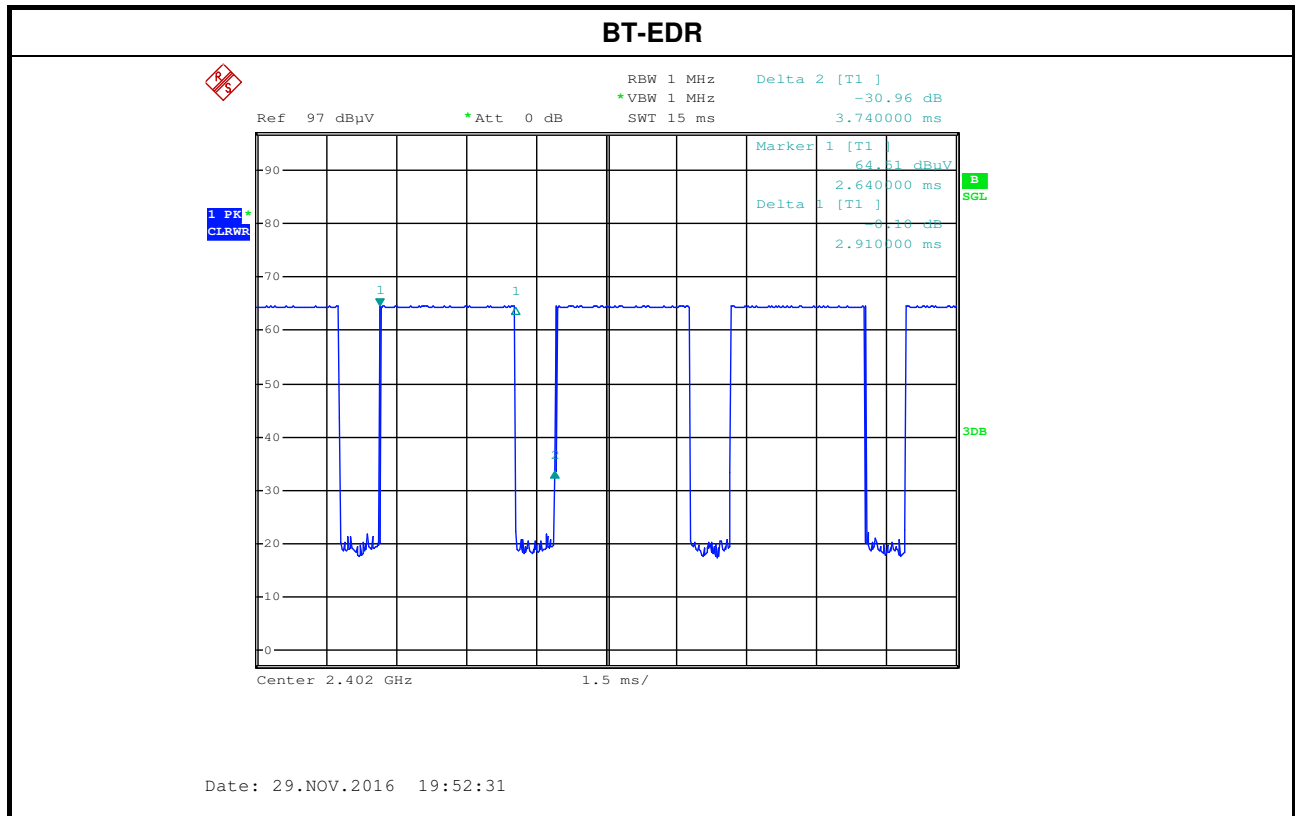
Only Ant. 1(Port1) can be used as transmitting antenna and receiving antenna.

For Bluetooth function:

Only Ant. 1 can be used as transmitting antenna and receiving antenna.

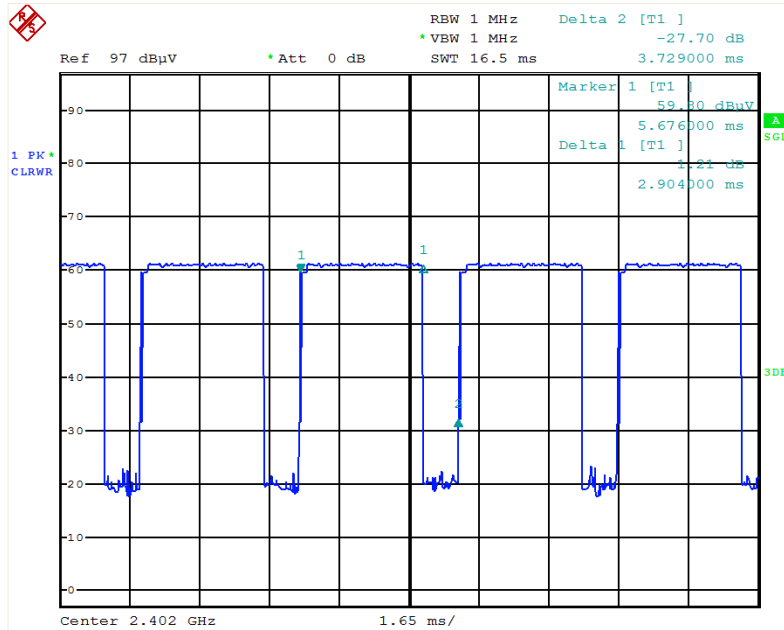
1.1.3 Mode Test Duty Cycle

Mode	DC	T(s)	VBW(Hz) $\geq 1/T$
BT-EDR	0.77	2.910	1k
BT-EDR2	0.77	0.288	10k
BT-EDR3	0.77	0.288	10k



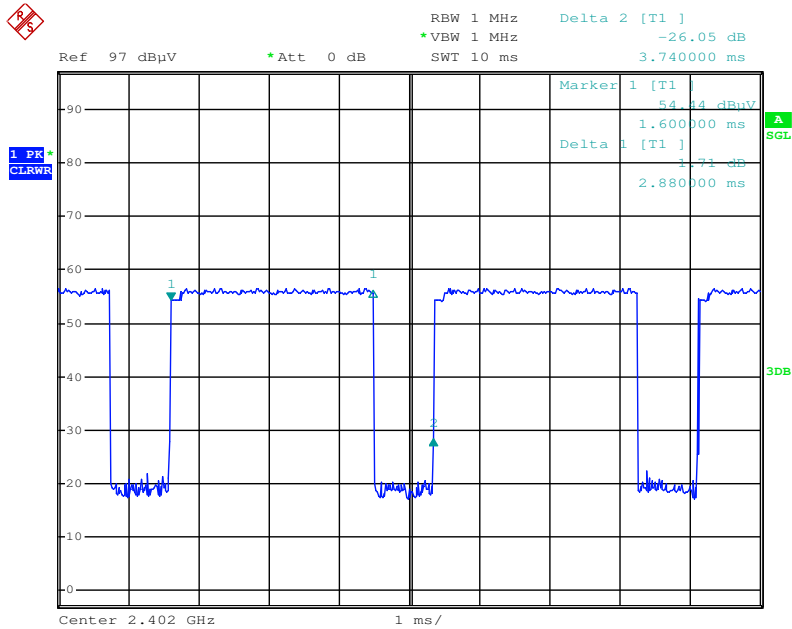


BT-EDR2



Date: 29.NOV.2016 15:46:59

BT-EDR3



Date: 29.NOV.2016 18:55:30

1.1.4 EUT Operational Condition

EUT Power Type	From Power Adapter
RF Chip Model No.	BCM43438
Firmware Version	V1.00(ABEQ.1)C0

1.1.5 Table for micro SD card list

Micro SD card	Brand Name
Main source micro SD card	ADATA
Second source micro SD card	Phison

1.2 Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ 47 CFR FCC Part 15
- ♦ FCC Public Notice DA 00-705
- ♦ FCC KDB 412172 D01 v01

1.3 Testing Location Information

Testing Location		
☐	HWA YA	ADD : No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL : 886-3-327-3456 FAX : 886-3-318-0055
☒	JHUBEI	ADD : No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C. TEL : 886-3-656-9065 FAX : 886-3-656-9085

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
RF Conducted	TH01-CB	Gary Chu	25°C / 65%	Nov. 28, 2016
Radiated	03CH01-CB	Peter Wu/Zero Chen/ Stim Sung/Mason Chen/ Nyle Chang	22°C / 54%	Nov. 02, 2016~Jan. 10, 2017
AC Conduction	CO01-CB	GN Hou/Edison	21°C / 59%	Jan. 10, 2017

Test site Designation No. TW0006 with FCC.

Test site registered number IC 4086D with Industry Canada.

1.4 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2))

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.2 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	3.6 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.7 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Conducted Emission	1.7 dB	Confidence levels of 95%
Output Power Measurement	1.33 dB	Confidence levels of 95%
Bandwidth Measurement	9.74×10^{-8}	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Channel Mode

Band	Mode	BWch (MHz)	Nss-Min	Nant	Ch. (MHz)	Range	Power Setting
2.4G	BT-EDR	1	1	1	2402	L	0
2.4G	BT-EDR	1	1	1	2440	M	0
2.4G	BT-EDR	1	1	1	2480	H	0
2.4G	BT-EDR2	1	1	1	2402	L	0
2.4G	BT-EDR2	1	1	1	2440	M	0
2.4G	BT-EDR2	1	1	1	2480	H	0
2.4G	BT-EDR3	1	1	1	2402	L	0
2.4G	BT-EDR3	1	1	1	2440	M	0
2.4G	BT-EDR3	1	1	1	2480	H	0

Note:

- ♦ Test range channel consist of L (Low Ch.), M (Middle Ch.), H (High Ch.), S (Single Ch.) and C (Straddle Band Ch.).

2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral
Operating Mode	CTX
1	CTX - 2.4GHz WLAN
2	CTX - BT / RF test tool: BlueTool
For operating mode 2 is the worst case and it was record in this test report.	

The Worst Case Mode for Following Conformance Tests	
Tests Item	20dB Bandwidth Carrier Frequency Separation Maximum Conducted Output Power Number of Hopping Frequencies Hopping Bandedge Time of Occupancy (Dwell Time) Emissions in Non-restricted Frequency Bands
Test Condition	Conducted measurement at transmit chains

The Worst Case Mode for Following Conformance Tests	
Tests Item	Emissions in Restricted Frequency Bands
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.
Operating Mode < 1GHz	CTX
1	CTX - 2.4GHz WLAN at Z-axis
2	CTX - 2.4GHz WLAN at Y-axis
3	CTX - BT at Z-axis / RF test tool: BlueTool
4	CTX - BT at Y-axis / RF test tool: BlueTool
For operating mode 2 is the worst case and it was record in this test report.	
Operating Mode > 1GHz	The EUT can be placed in Y-axis and Z-axis. After evaluating, The worst case was found at Y-axis, so it's recorded in this report.
	CTX
1	EUT at Y-axis

2.3 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

2.4 Accessories

Accessories				
No.	Equipment Name	Brand Name	Model Name	Rating
1	Adapter	APD	WB-10E05R	Input: 100-240V~50-60Hz, 0.4A Max Output: 5V, 2A
Others				
2	USB cable, Shielded, 3m			
3	Pedestal*1			
4	Plug*1			
5	Main source micro SD card*1 (Brand Name.: ADATA)			
6	Second source micro SD card*1 (Brand Name.: Phison)			

2.5 Support Equipment

For Test Site No: CO01-CB

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	NB	DELL	E6430	DoC
2	Test fixture	Abocom	RS232 Console Cable	N/A

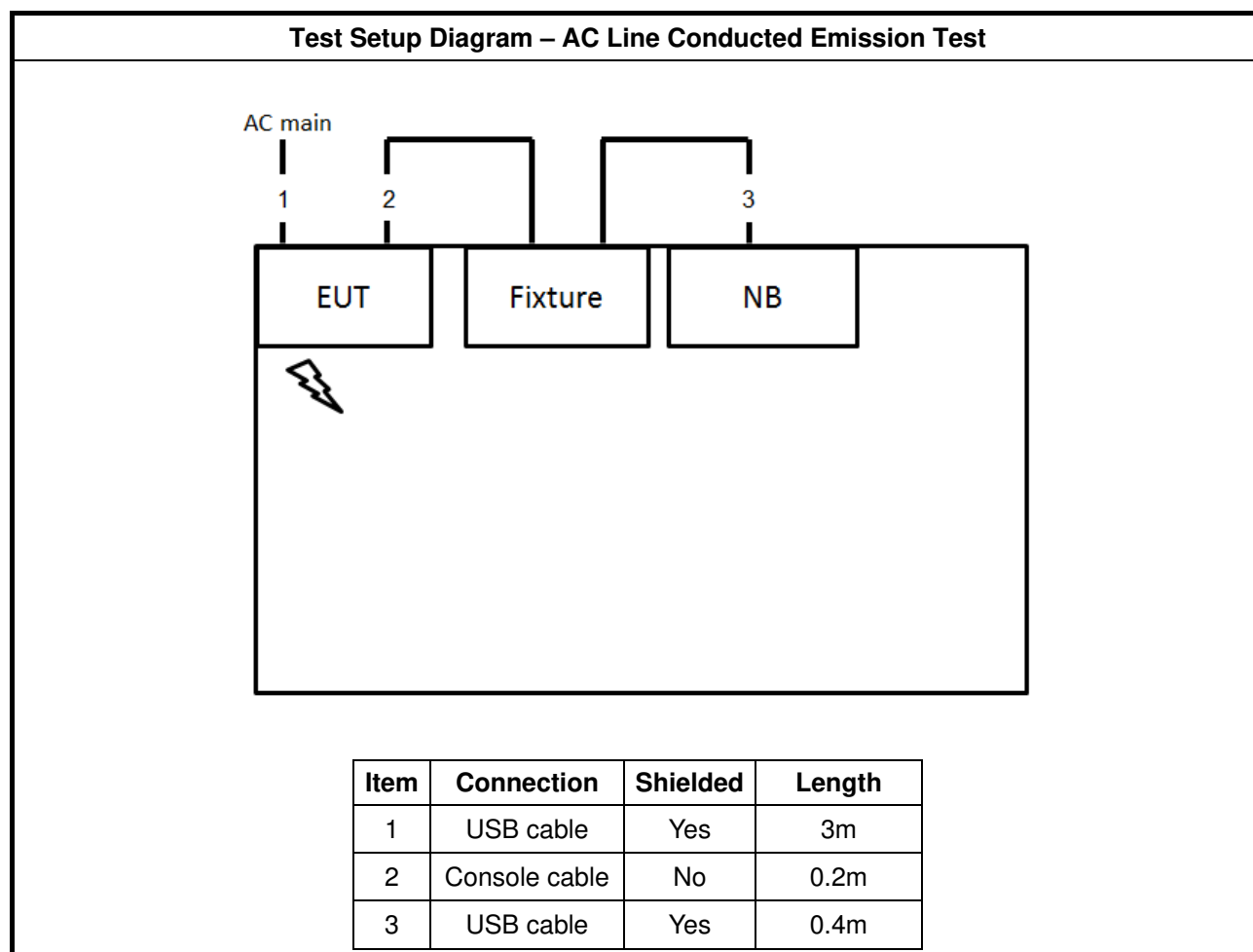
For Test Site No: 03CH01-CB

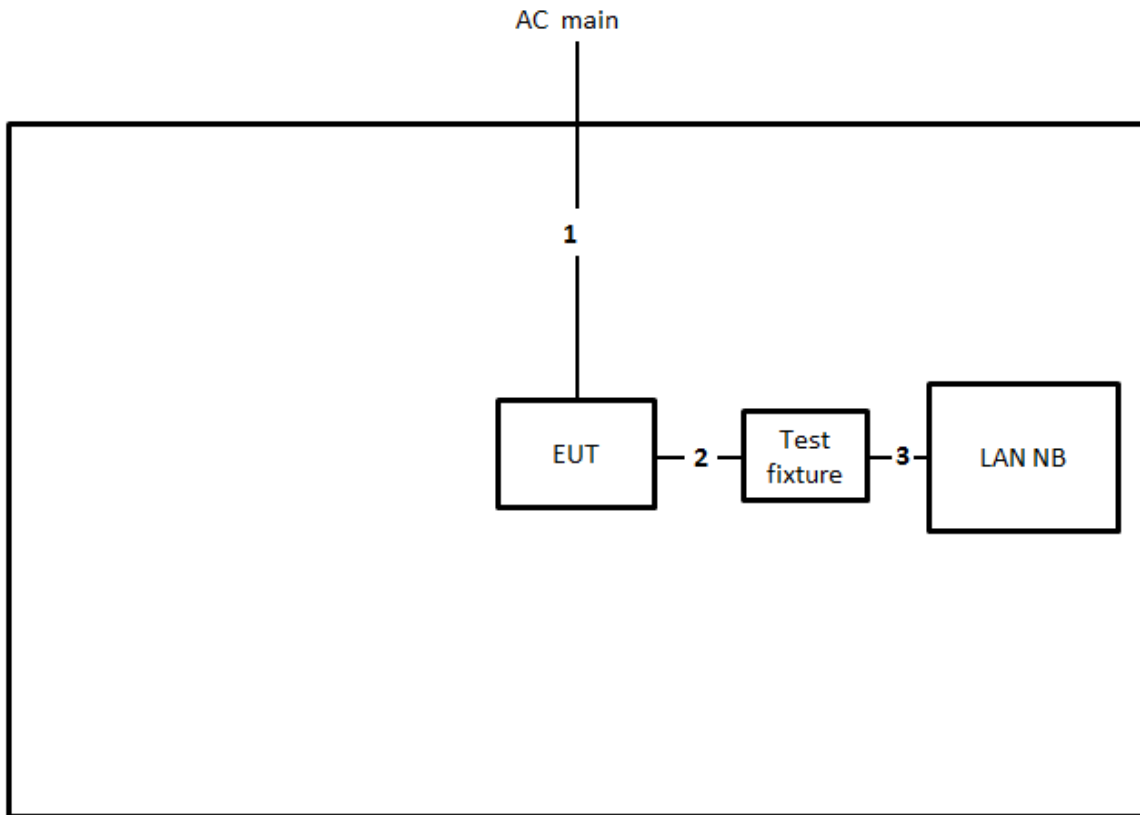
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	NB	DELL	E4300	DoC
2	Test fixture	Abocom	RS232 Console Cable	N/A

For Test Site No: TH01-CB

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
1	NB	DELL	E4300	DoC
2	Test fixture	Abocom	RS232 Console Cable	N/A

2.6 Test Setup Diagram



Test Setup Diagram - Radiated Test


Item	Connection	Shielded	Length
1	USB cable	Yes	3m
2	Console cable	No	0.2m
3	USB cable	Yes	0.4m

3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

AC Power-line Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

Note 1: * Decreases with the logarithm of the frequency.

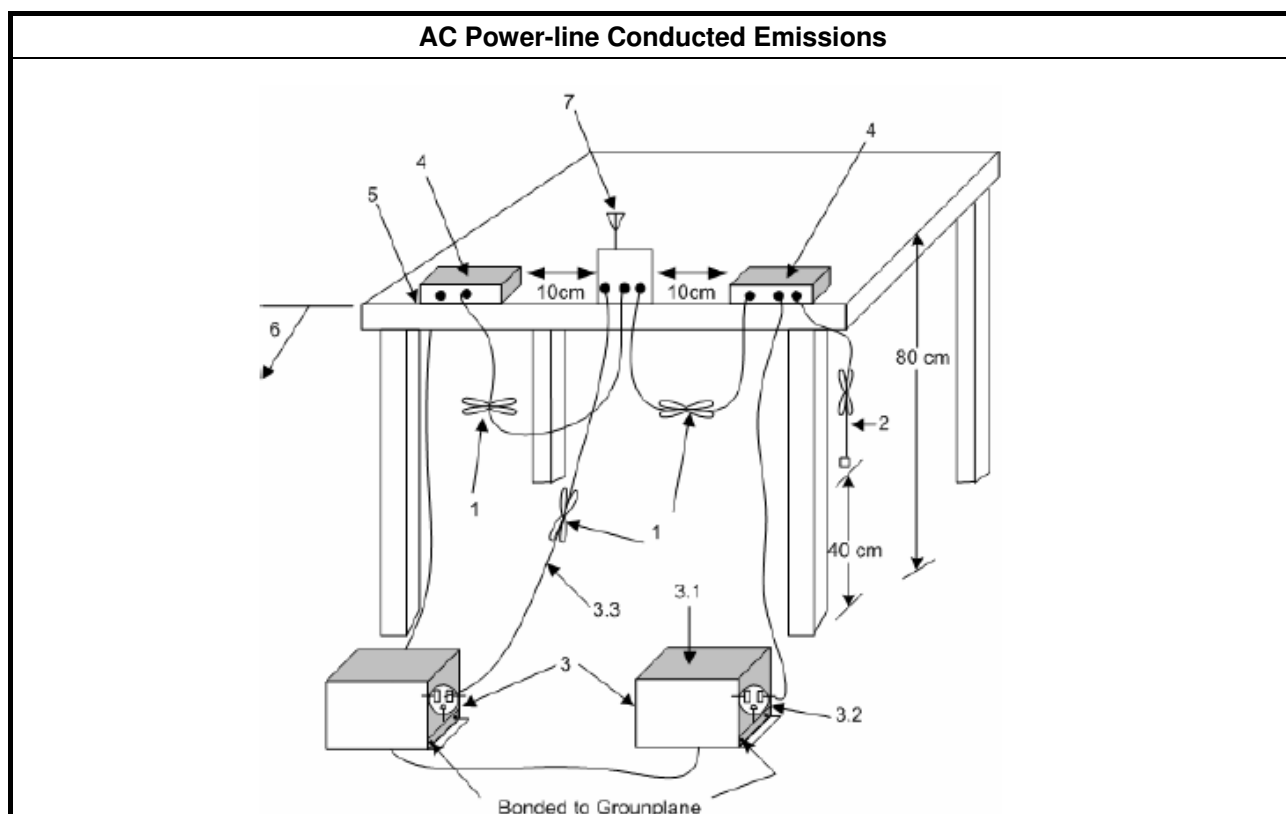
3.1.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

Test Method
Refer as ANSI C63.10-2013, clause 6.2 for power-line conducted emissions.

3.1.4 Test Setup





3.1.5 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 20dB Bandwidth and Carrier Frequency Separation

3.2.1 20dB Bandwidth and Carrier Frequency Separation Limit

20dB Bandwidth and Carrier Frequency Separation Limit for Frequency Hopping Systems	
▪ 902-928 MHz Band:	
	▪ $N \geq 50$ and $ChS \geq \text{MAX}$ (20 dB bandwidth, 25 kHz); 20 dB bandwidth $\leq$ 250 kHz.
	▪ $50 > N \geq 25$ and $ChS \geq \text{MAX}$ (20 dB bandwidth, 25 kHz); 20 dB bandwidth $>$ 250 kHz.
▪ 2400-2483.5 MHz Band:	
	▪ $N \geq 75$ and $ChS \geq \text{MAX}$ (20 dB bandwidth, 25 kHz).
	▪ $75 > N \geq 15$ and $ChS \geq \text{MAX}$ (20 dB bandwidth 2/3, 25 kHz).
▪ 5725-5850 MHz Band:	
	▪ $N \geq 75$ and $ChS \geq \text{MAX}$ (20 dB bandwidth, 25 kHz); 20 dB bandwidth $\leq$ 1 MHz.
N: Number of Hopping Frequencies; ChS: Hopping Channel Separation	

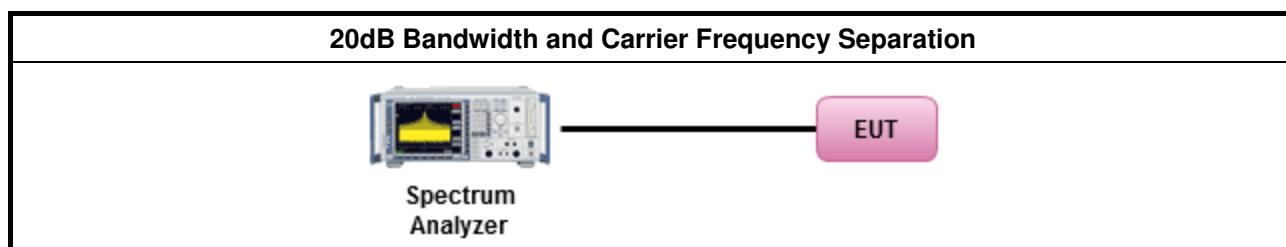
3.2.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.2.3 Test Procedures

Test Method
▪ Refer as ANSI C63.10-2013, clause 6.9.1 for 20 dB bandwidth measurement.
▪ Refer as ANSI C63.10-2013, clause 7.8.2 for carrier frequency separation measurement.

3.2.4 Test Setup



3.2.5 Test Result of 20dB Bandwidth

Refer as Appendix B

3.2.6 Test Result of Carrier Frequency Separation

Refer as Appendix B

3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

Maximum Conducted Output Power Limit	
▪ 902-928 MHz Band:	
	▪ $N \geq 50$; Power 30dBm; EIRP 36dBm
	▪ $50 > N \geq 25$; Power 24dBm; EIRP 30dBm
▪ 2400-2483.5 MHz Band:	
	▪ $N \geq 75$; Power 30dBm; EIRP 36dBm
	▪ $75 > N \geq 15$; Power 21dBm; EIRP 27dBm
▪ 5725-5850 MHz Band:	
	▪ $N \geq 75$; Power 30dBm; EIRP 36dBm
N: Number of Hopping Frequencies	

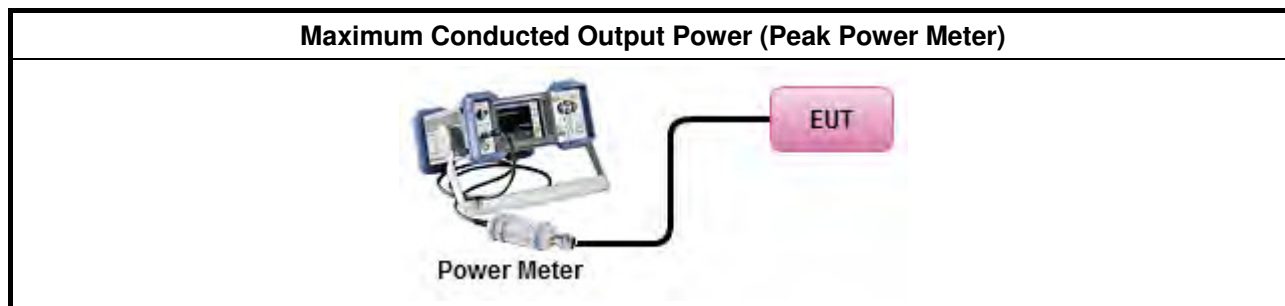
3.3.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.3.3 Test Procedures

Test Method
▪ Refer as ANSI C63.10-2013, clause 7.8.5 for output power measurement.

3.3.4 Test Setup



3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C

3.4 Number of Hopping Frequencies and Hopping Bandedge

3.4.1 Number of Hopping Frequencies Limit

Number of Hopping Frequencies Limit	
▪ 902-928 MHz Band:	
	▪ $N \geq 50$ and $ChS \geq MAX$ (20 dB bandwidth, 25 kHz); 20 dB bandwidth $\leq$ 250 kHz.
	▪ $50 > N \geq 25$ and $ChS \geq MAX$ (20 dB bandwidth, 25 kHz); 20 dB bandwidth $>$ 250 kHz.
▪ 2400-2483.5 MHz Band:	
	▪ $N \geq 75$ and $ChS \geq MAX$ (20 dB bandwidth, 25 kHz).
	▪ $75 > N \geq 15$ and $ChS \geq MAX$ (20 dB bandwidth 2/3, 25 kHz).
▪ 5725-5850 MHz Band:	
	▪ $N \geq 75$ and $ChS \geq MAX$ (20 dB bandwidth, 25 kHz); 20 dB bandwidth $\leq$ 1 MHz.
N: Number of Hopping Frequencies; ChS : Hopping Channel Separation	

3.4.2 Hopping Bandedge Limit

Refer clause 3.6.1 and clause 3.7.1

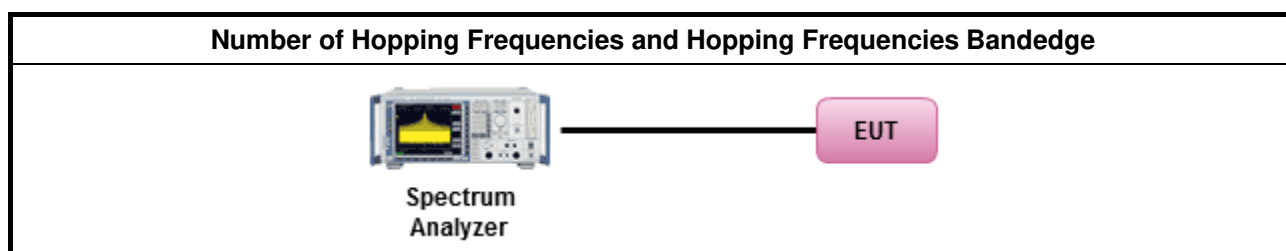
3.4.3 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.4.4 Test Procedures

Test Method
▪ Refer as ANSI C63.10-2013, clause 7.8.3 for number of hopping frequencies measurement.
▪ Refer as ANSI C63.10-2013, clause 7.8.6 for hopping frequencies Bandedge measurement.

3.4.5 Test Setup



3.4.6 Test Result of Number of Hopping Frequencies

Refer as Appendix D

3.4.7 Test Result of Number of Hopping Frequencies Bandedge

Refer as Appendix D

3.5 Time of Occupancy (Dwell Time)

3.5.1 Time of Occupancy (Dwell Time) Limit

20dB Bandwidth and Carrier Frequency Separation Limit for Frequency Hopping Systems	
▪ 902-928 MHz Band:	
	▪ $N \geq 50$; 0.4s in 20s period
	▪ $50 > N \geq 25$; 0.4s in 10s period
▪ 2400-2483.5 MHz Band:	
	▪ $N \geq 75$; 0.4s in $N \times 0.4$ period
	▪ $75 > N \geq 15$; 0.4s in $N \times 0.4$ period
▪ 5725-5850 MHz Band:	
	▪ $N \geq 75$; 0.4s in 30s period
N: Number of Hopping Frequencies	

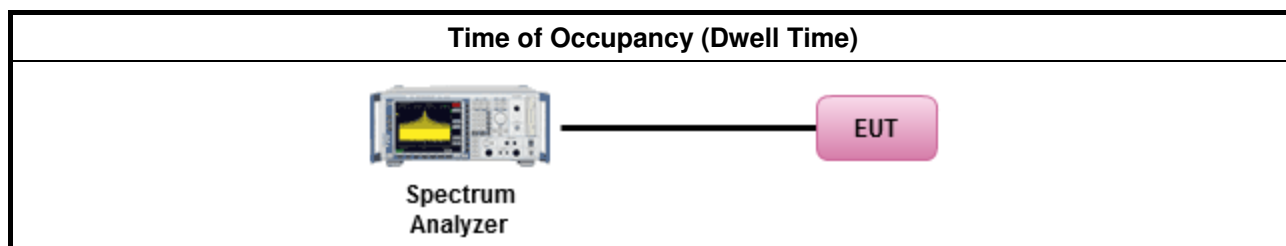
3.5.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.5.3 Test Procedures

Test Method	
▪ Refer as ANSI C63.10-2013, clause 7.8.4 for dwell time measurement.	
▪ Bluetooth ACL packets can be 1, 3, or 5 time slots. Following as dwell time. Operate DH5 at maximum dwell time and maximum duty cycle.	
	▪ The DH5 packet can cover up to 5 time slots. Operate DH5 at maximum dwell time and maximum duty cycle. A maximum length packet has duration of 5 time slots. The hopping rate is 1600 hops/second so the maximum dwell time is $5/1600$ seconds, or 3.125ms. DH5 Packet permit maximum $1600 / 79 / 6 = 3.37$ hops per second in each channel.

3.5.4 Test Setup



3.5.5 Test Result of Time of Occupancy (Dwell Time)

Refer as Appendix E

3.6 Emissions in Non-restricted Frequency Bands

3.6.1 Emissions in Non-restricted Frequency Bands Limit

Un-restricted Band Emissions Limit	
RF output power procedure	Limit (dB)
Peak output power procedure	20
Note 1: If the peak output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the peak conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum measured in-band peak PSD level.	

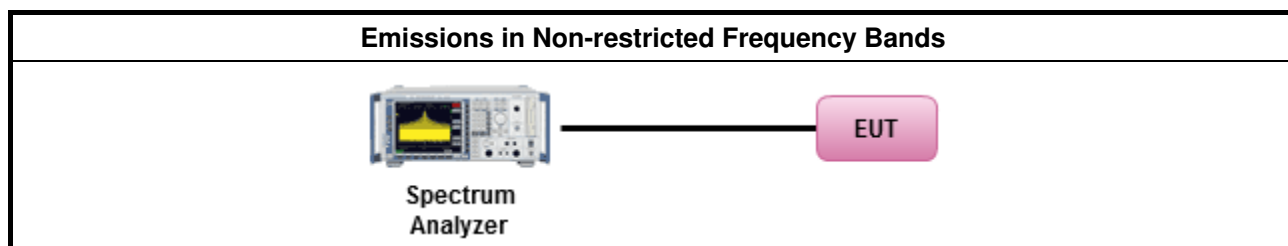
3.6.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.6.3 Test Procedures

Test Method
Refer as ANSI C63.10-2013, clause 7.8.8 for unwanted emissions into non-restricted bands.

3.6.4 Test Setup



3.6.5 Test Result of Emissions in Non-restricted Frequency Bands

Refer as Appendix F

3.7 Emissions in Restricted Frequency Bands

3.7.1 Emissions in Restricted Frequency Bands Limit

Restricted Band Emissions Limit			
Frequency Range (MHz)	Field Strength (uV/m)	Field Strength (dBuV/m)	Measure Distance (m)
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

Note 1: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB / decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

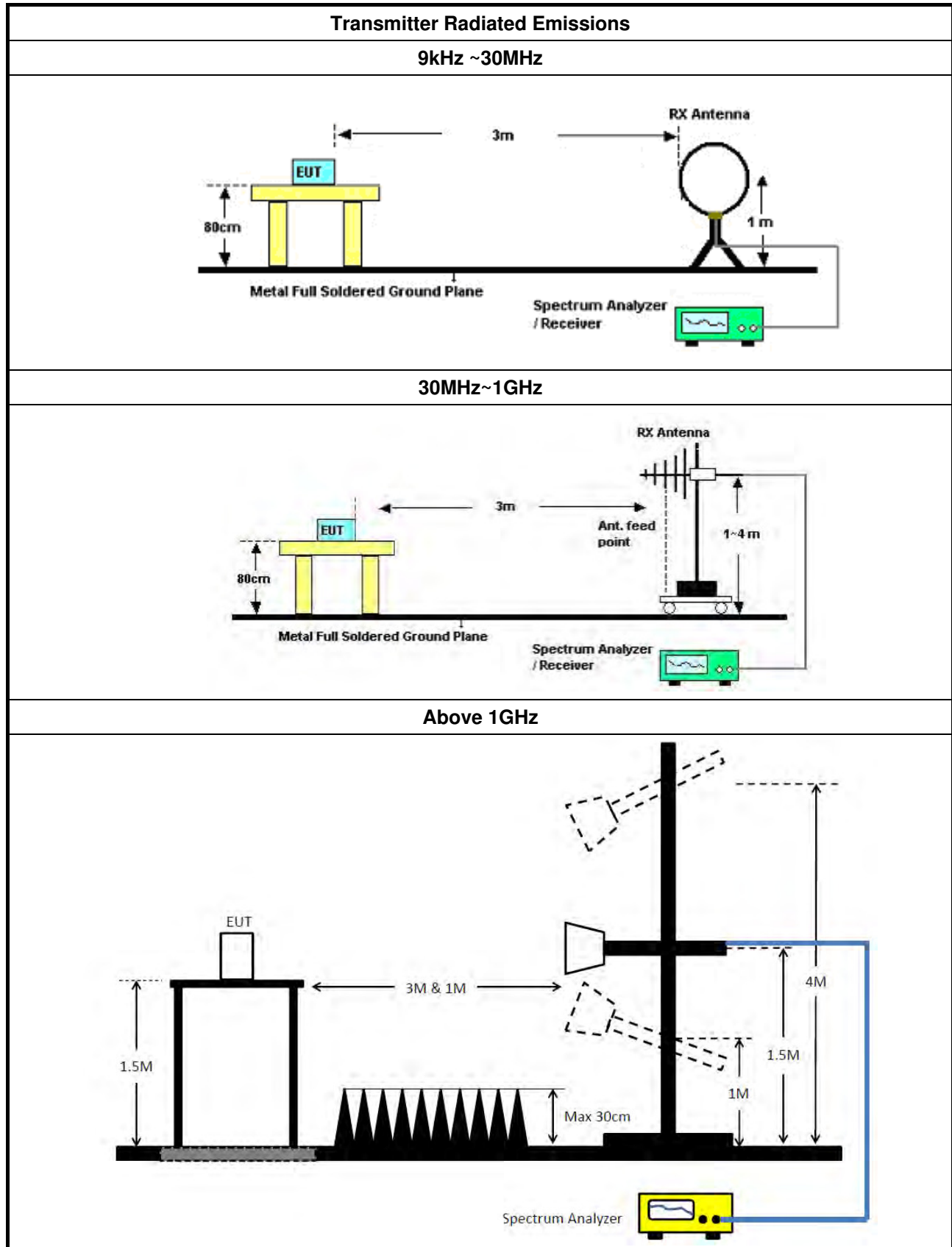
3.7.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.7.3 Test Procedures

Test Method	
The average emission levels shall be measured in [hopping duty factor].	
Refer as ANSI C63.10; clause 6.9.2.2 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.	
For the transmitter unwanted emissions shall be measured using following options below:	
	Refer as ANSI C63.10, clause 4.1.4.2.1 QP value.
	Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak.
	Refer as ANSI C63.10, clause 4.1.4.2.4 average value of hopping pulsed emissions.

3.7.4 Test Setup





3.7.5 Transmitter Radiated Unwanted Emissions (Below 30MHz)

All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

3.7.6 Transmitter Radiated Unwanted Emissions

Refer as Appendix G



4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMI Receiver	Agilent	N9038A	My52260123	9kHz ~ 8.45GHz	Jan. 27, 2016	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-16-2	04083	150kHz ~ 100MHz	Dec. 14, 2016	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Dec. 21, 2016	Conduction (CO01-CB)
COND Cable	Woken	Cable	01	150kHz ~ 30MHz	May 24, 2016	Conduction (CO01-CB)
Software	Audix	E3	6.120210n	-	N.C.R.	Conduction (CO01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 16, 2016*	Radiation (03CH01-CB)
BILOG ANTENNA	TESEQ	CBL6112D	37880	20MHz ~ 2GHz	Aug. 30, 2016	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	9610-4976	1GHz ~ 18GHz	Apr. 25, 2016	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jul. 25, 2016	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8447D	2944A10991	0.1MHz ~ 1.3GHz	Mar. 15, 2016	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Jan. 18, 2016	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP-40	100019	9kHz ~ 40GHz	Apr. 21, 2016	Radiation (03CH01-CB)
EMI Test	R&S	ESCS	100355	9kHz ~ 2.75GHz	May 16, 2016	Radiation (03CH01-CB)
RF Cable-low	Woken	Low Cable-1	N/A	30 MHz ~ 1 GHz	Oct. 24, 2016	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16	N/A	1 GHz ~ 18 GHz	Oct. 24, 2016	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-17	N/A	1 GHz ~ 18 GHz	Oct. 24, 2016	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G-1	N/A	18GHz ~ 40 GHz	Oct. 24, 2016	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G-2	N/A	18GHz ~ 40 GHz	Oct. 24, 2016	Radiation (03CH01-CB)
Test Software	Audix	E3	6.2009-I0-7	N/A	N/A	Radiation (03CH01-CB)
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	Dec. 09, 2015	Conducted (TH01-CB)



FCC Test Report

Report No. : FR691206AB

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
RF Cable-high	Woken	RG402	High Cable-6	1 GHz – 26.5 GHz	Oct. 24, 2016	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-7	1 GHz – 26.5 GHz	Oct. 24, 2016	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-8	1 GHz – 26.5 GHz	Oct. 24, 2016	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-9	1 GHz – 26.5 GHz	Oct. 24, 2016	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz – 26.5 GHz	Oct. 24, 2016	Conducted (TH01-CB)
Power Sensor	Agilent	U2021XA	MY54320014	50MHz~18GHz	Apr. 20, 2016	Conducted (TH01-CB)

Note: Calibration Interval of instruments listed above is one year.

“*” Calibration Interval of instruments listed above is two years.

N.C.R means Non-Calibration required.



AC Power-line Conducted Emissions Result

Operating Mode	2	Power Phase	Neutral
Operating Function	CTX		

Date: 2017-01-10 Time: 09:58:52

Frequency (MHz)

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.1659	34.99	-20.17	55.16	24.80	10.02	0.17	NEUTRAL	Average
2	0.1659	40.44	-24.72	65.16	30.25	10.02	0.17	NEUTRAL	QP
3	0.2139	29.93	-23.12	53.05	19.84	9.92	0.17	NEUTRAL	Average
4	0.2139	41.81	-21.24	63.05	31.72	9.92	0.17	NEUTRAL	QP
5	0.2940	25.25	-25.16	50.41	15.24	9.92	0.09	NEUTRAL	Average
6	0.2940	35.01	-25.40	60.41	25.00	9.92	0.09	NEUTRAL	QP
7	0.4444	22.61	-24.37	46.98	12.60	9.92	0.09	NEUTRAL	Average
8	0.4444	28.32	-28.66	56.98	18.31	9.92	0.09	NEUTRAL	QP
9	0.6790	21.73	-24.27	46.00	11.37	9.93	0.43	NEUTRAL	Average
10	0.6790	26.58	-29.42	56.00	16.22	9.93	0.43	NEUTRAL	QP
11	0.8803	20.65	-25.35	46.00	10.07	9.94	0.64	NEUTRAL	Average
12	0.8803	25.22	-30.78	56.00	14.64	9.94	0.64	NEUTRAL	QP

Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)

AC Power-line Conducted Emissions Result

Operating Mode	2	Power Phase	Line
Operating Function	CTX		

Level (dBuV) Date: 2017-01-10 Time: 09:58:13

Frequency (MHz)

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.2139	35.70	-17.35	53.05	25.61	9.92	0.17	LINE	Average
2	0.2139	43.81	-19.24	63.05	33.72	9.92	0.17	LINE	QP
3	0.2924	30.32	-20.14	50.46	20.31	9.92	0.09	LINE	Average
4	0.2924	34.95	-25.51	60.46	24.94	9.92	0.09	LINE	QP
5	0.4516	23.16	-23.69	46.85	13.13	9.92	0.11	LINE	Average
6	0.4516	27.87	-28.98	56.85	17.84	9.92	0.11	LINE	QP
7	0.6863	21.23	-24.77	46.00	10.86	9.93	0.44	LINE	Average
8	0.6863	25.90	-30.10	56.00	15.53	9.93	0.44	LINE	QP
9	1.1056	18.17	-27.83	46.00	7.59	9.94	0.64	LINE	Average
10	1.1056	23.92	-32.08	56.00	13.34	9.94	0.64	LINE	QP
11	1.3098	17.80	-28.20	46.00	7.37	9.95	0.48	LINE	Average
12	1.3098	24.01	-31.99	56.00	13.58	9.95	0.48	LINE	QP

Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)



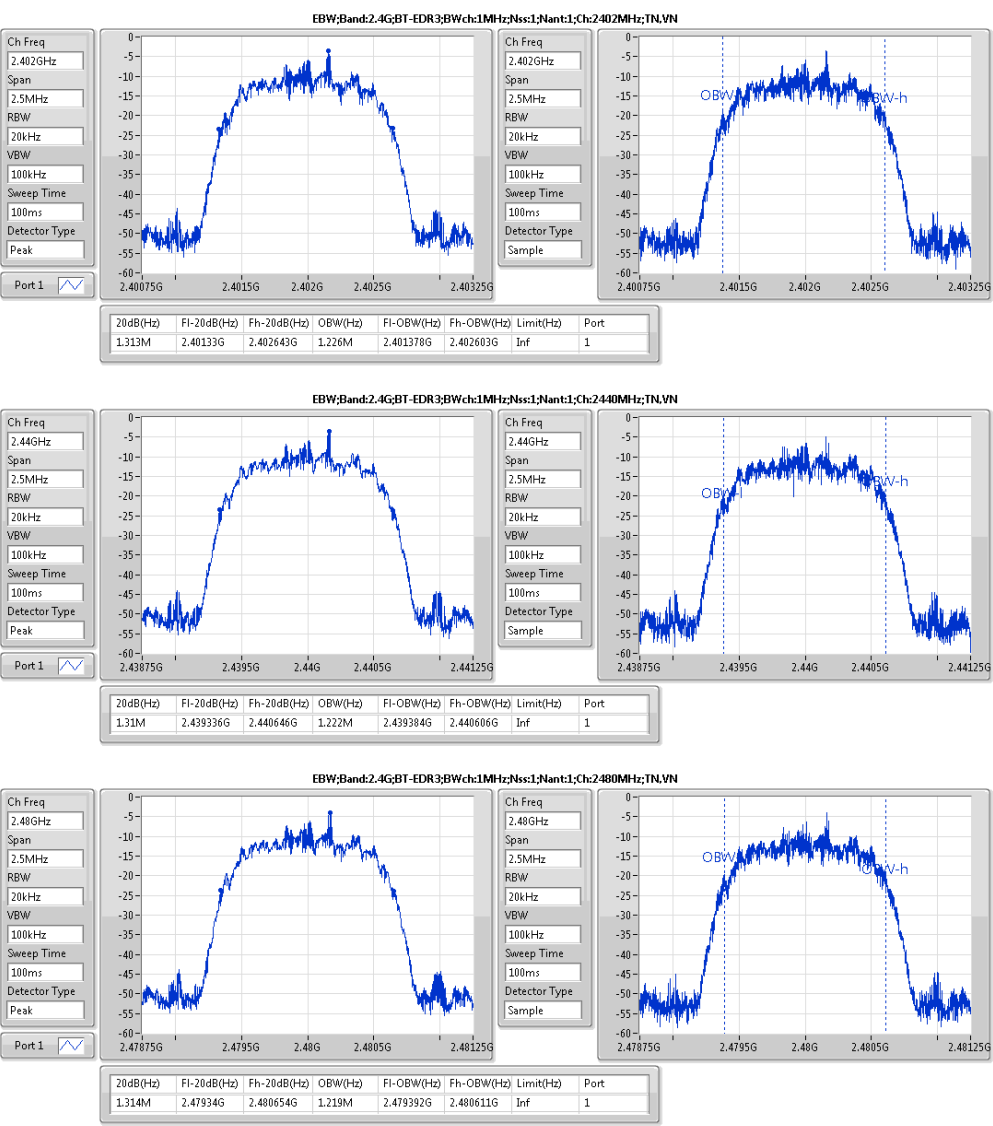
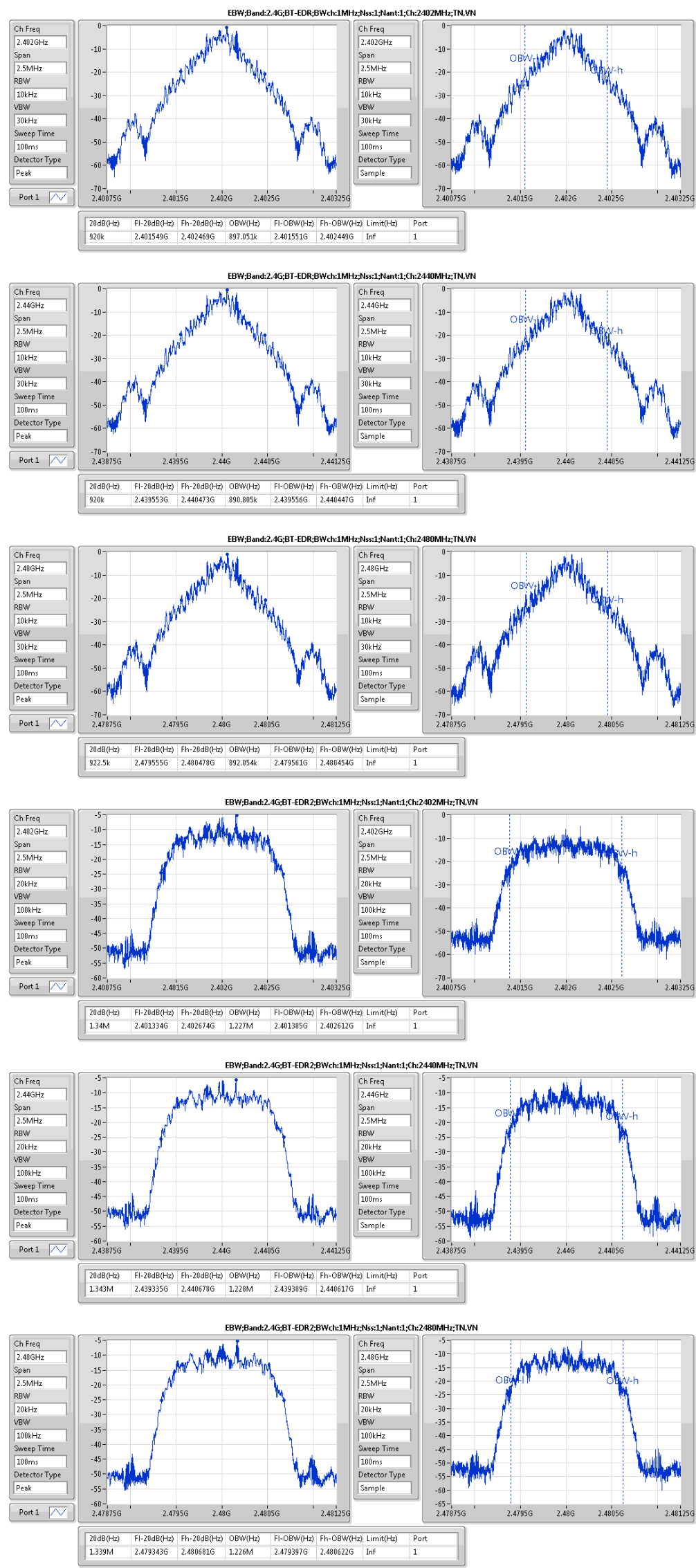
Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4G;BT-EDR;Nss1;Ntx1	922.5k	897.051k	897kG1D	920k	890.805k
2.4G;BT-EDR2;Nss1;Ntx1	1.343M	1.228M	1M23G1D	1.339M	1.226M
2.4G;BT-EDR3;Nss1;Ntx1	1.314M	1.226M	1M23G1D	1.31M	1.219M



Result

Mode	Result	Limit (Hz)	P1-N dB (Hz)	P1-OBW (Hz)
2.4G;BT-EDR;Nss1;Ntx1;2402	Pass	Inf	920k	897.051k
2.4G;BT-EDR;Nss1;Ntx1;2440	Pass	Inf	920k	890.805k
2.4G;BT-EDR;Nss1;Ntx1;2480	Pass	Inf	922.5k	892.054k
2.4G;BT-EDR2;Nss1;Ntx1;2402	Pass	Inf	1.34M	1.227M
2.4G;BT-EDR2;Nss1;Ntx1;2440	Pass	Inf	1.343M	1.228M
2.4G;BT-EDR2;Nss1;Ntx1;2480	Pass	Inf	1.339M	1.226M
2.4G;BT-EDR3;Nss1;Ntx1;2402	Pass	Inf	1.313M	1.226M
2.4G;BT-EDR3;Nss1;Ntx1;2440	Pass	Inf	1.31M	1.222M
2.4G;BT-EDR3;Nss1;Ntx1;2480	Pass	Inf	1.314M	1.219M





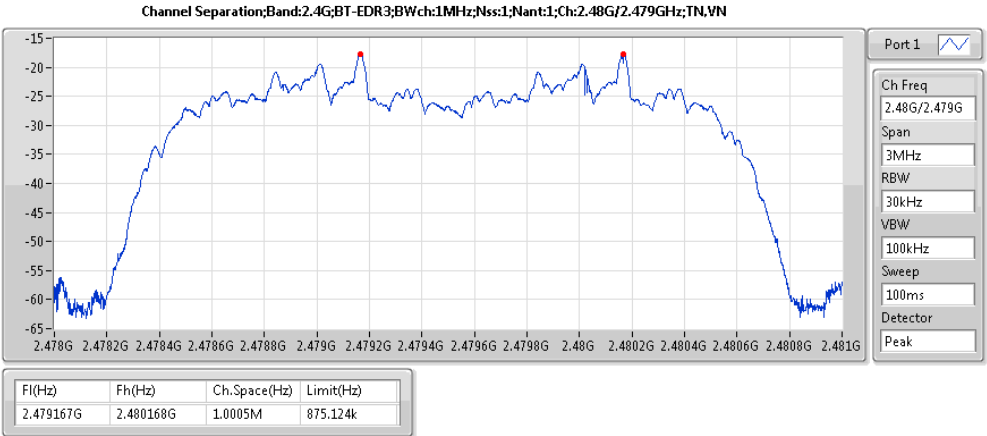
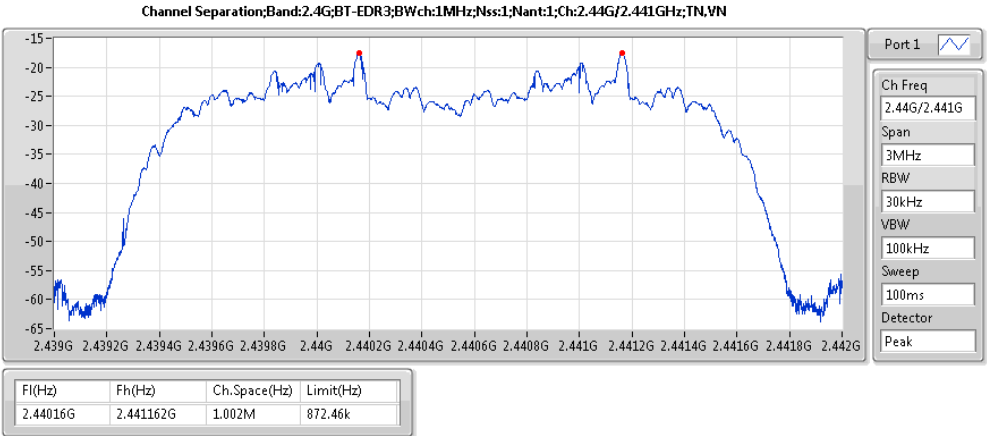
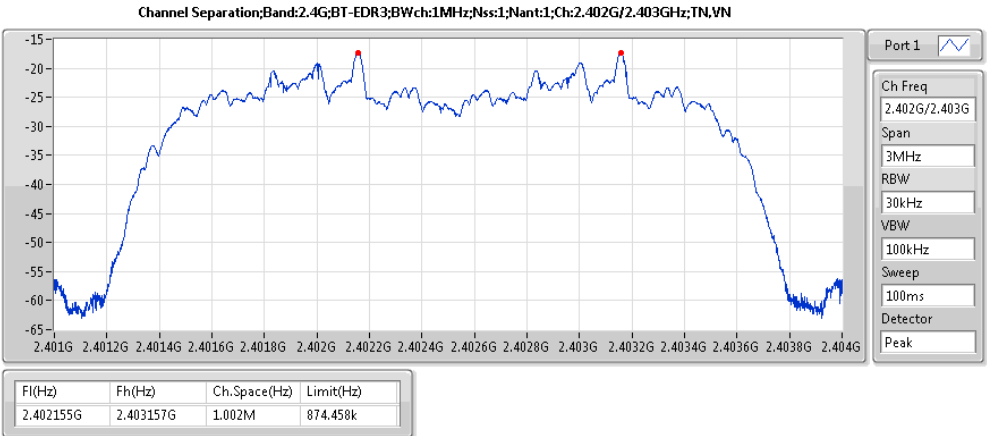
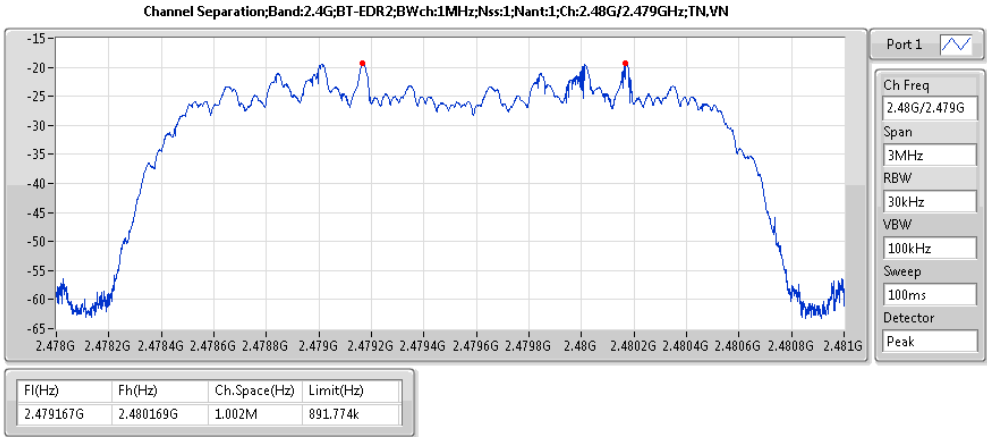
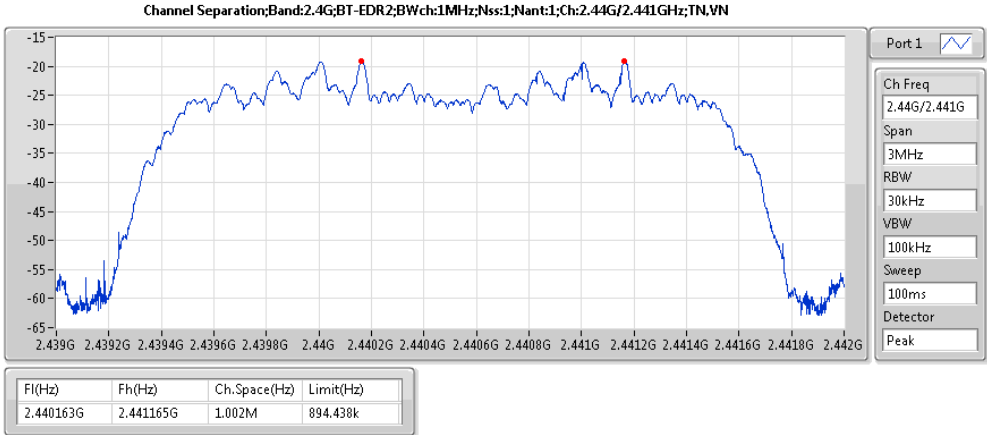
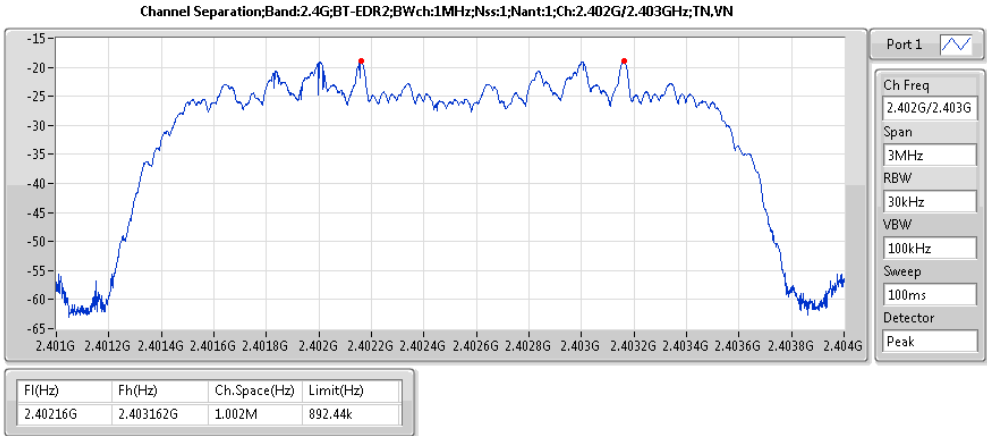
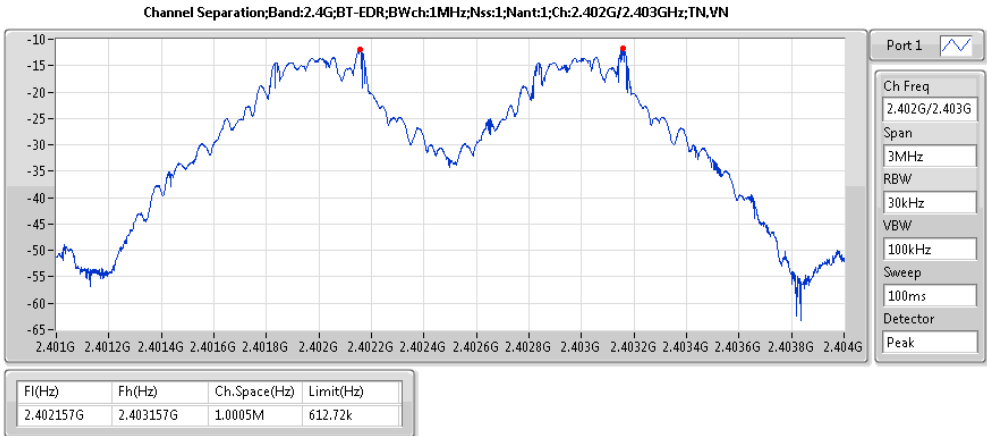
Summary

Mode	Max-Space (Hz)	Min-Space (Hz)
2.4G;BT-EDR;Nss1;Ntx1	1.0005M	1.0005M
2.4G;BT-EDR2;Nss1;Ntx1	1.002M	1.002M
2.4G;BT-EDR3;Nss1;Ntx1	1.002M	1.0005M



Result

Mode	Result	Fl (Hz)	Fh (Hz)	Ch.Space (Hz)	Limit (Hz)
2.4G;BT-EDR;Nss1;Ntx1;2402	Pass	2.402157G	2.403157G	1.0005M	612.72k
2.4G;BT-EDR;Nss1;Ntx1;2440	Pass	2.440163G	2.441163G	1.0005M	612.72k
2.4G;BT-EDR;Nss1;Ntx1;2480	Pass	2.479166G	2.480166G	1.0005M	614.385k
2.4G;BT-EDR2;Nss1;Ntx1;2402	Pass	2.40216G	2.403162G	1.002M	892.44k
2.4G;BT-EDR2;Nss1;Ntx1;2440	Pass	2.440163G	2.441165G	1.002M	894.438k
2.4G;BT-EDR2;Nss1;Ntx1;2480	Pass	2.479167G	2.480169G	1.002M	891.774k
2.4G;BT-EDR3;Nss1;Ntx1;2402	Pass	2.402155G	2.403157G	1.002M	874.458k
2.4G;BT-EDR3;Nss1;Ntx1;2440	Pass	2.44016G	2.441162G	1.002M	872.46k
2.4G;BT-EDR3;Nss1;Ntx1;2480	Pass	2.479167G	2.480168G	1.0005M	875.124k





Summary

Mode	Sum (dBm)	Sum (W)	EIRP (dBm)	EIRP (W)
2.4G;BT-EDR;Nss1;Ntx1	5.13	0.00326	7.56	0.0057
2.4G;BT-EDR2;Nss1;Ntx1	-0.81	0.00083	1.62	0.00145
2.4G;BT-EDR3;Nss1;Ntx1	-0.83	0.00083	1.60	0.00145



Result

Mode	Result	DG (dBi)	Sum (dBm)	Sum Lim. (dBm)	P1 (dBm)
2.4G;BT-EDR;Nss1;Ntx1;2402	Pass	2.43	5.01	21.00	5.01
2.4G;BT-EDR;Nss1;Ntx1;2440	Pass	2.43	5.07	21.00	5.07
2.4G;BT-EDR;Nss1;Ntx1;2480	Pass	2.43	5.13	21.00	5.13
2.4G;BT-EDR2;Nss1;Ntx1;2402	Pass	2.43	-0.81	21.00	-0.81
2.4G;BT-EDR2;Nss1;Ntx1;2440	Pass	2.43	-0.91	21.00	-0.91
2.4G;BT-EDR2;Nss1;Ntx1;2480	Pass	2.43	-1.28	21.00	-1.28
2.4G;BT-EDR3;Nss1;Ntx1;2402	Pass	2.43	-0.83	21.00	-0.83
2.4G;BT-EDR3;Nss1;Ntx1;2440	Pass	2.43	-0.90	21.00	-0.90
2.4G;BT-EDR3;Nss1;Ntx1;2480	Pass	2.43	-1.27	21.00	-1.27



Summary

Mode	Sum (dBm)	Sum (W)	EIRP (dBm)	EIRP (W)
2.4G;BT-EDR;Nss1;Ntx1	6.49	0.00446	8.92	0.0078
2.4G;BT-EDR2;Nss1;Ntx1	2.89	0.00195	5.32	0.0034
2.4G;BT-EDR3;Nss1;Ntx1	3.14	0.00206	5.57	0.00361



Result

Mode	Result	DG (dBi)	Sum (dBm)	Sum Lim. (dBm)	P1 (dBm)
2.4G;BT-EDR;Nss1;Ntx1;2402	Pass	2.43	6.49	21.00	6.49
2.4G;BT-EDR;Nss1;Ntx1;2440	Pass	2.43	6.33	21.00	6.33
2.4G;BT-EDR;Nss1;Ntx1;2480	Pass	2.43	6.41	21.00	6.41
2.4G;BT-EDR2;Nss1;Ntx1;2402	Pass	2.43	2.89	21.00	2.89
2.4G;BT-EDR2;Nss1;Ntx1;2440	Pass	2.43	2.78	21.00	2.78
2.4G;BT-EDR2;Nss1;Ntx1;2480	Pass	2.43	2.47	21.00	2.47
2.4G;BT-EDR3;Nss1;Ntx1;2402	Pass	2.43	3.14	21.00	3.14
2.4G;BT-EDR3;Nss1;Ntx1;2440	Pass	2.43	3.07	21.00	3.07
2.4G;BT-EDR3;Nss1;Ntx1;2480	Pass	2.43	2.70	21.00	2.70



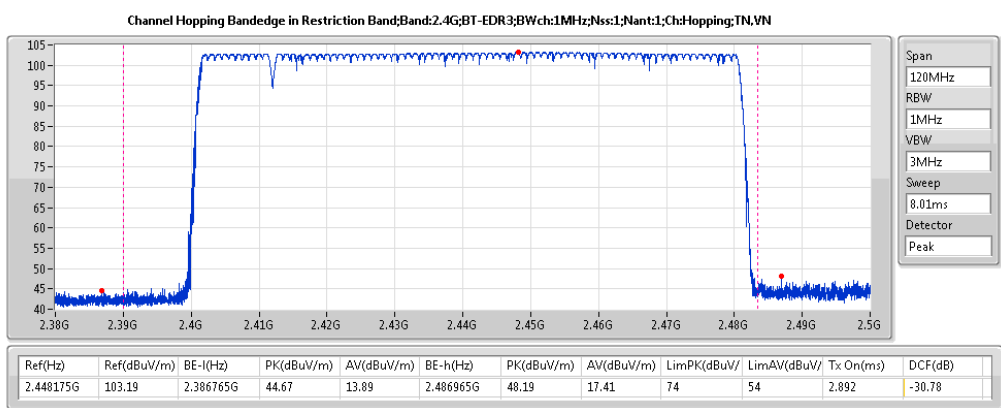
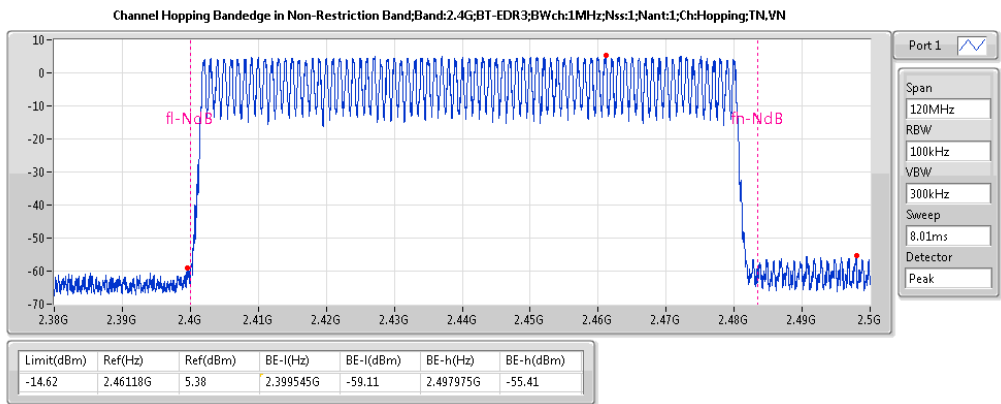
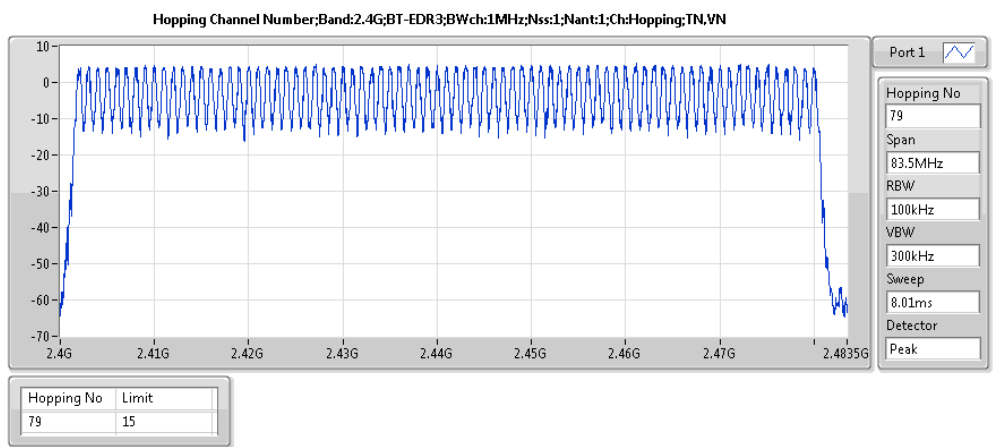
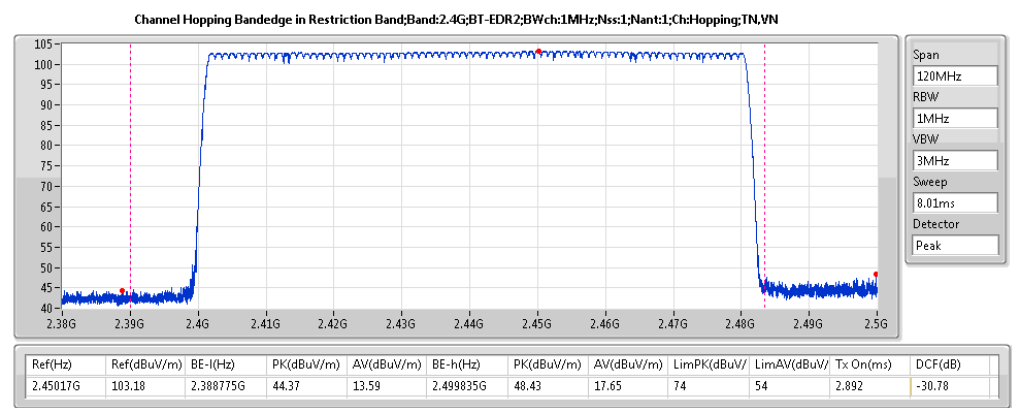
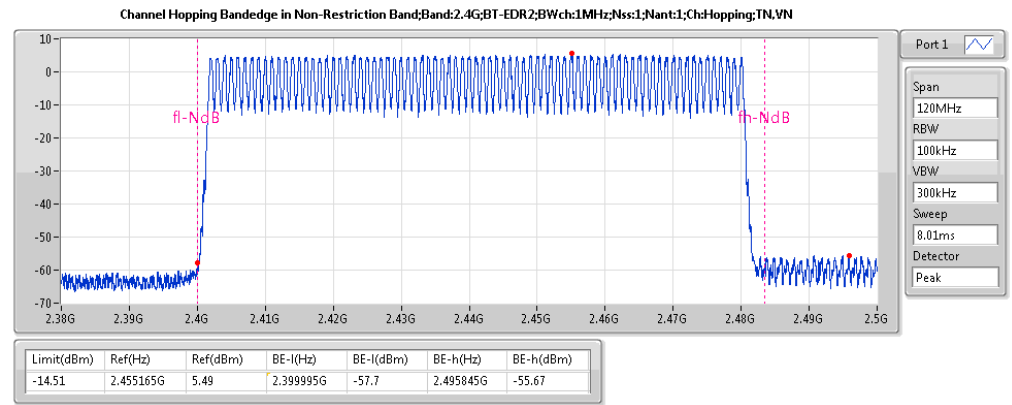
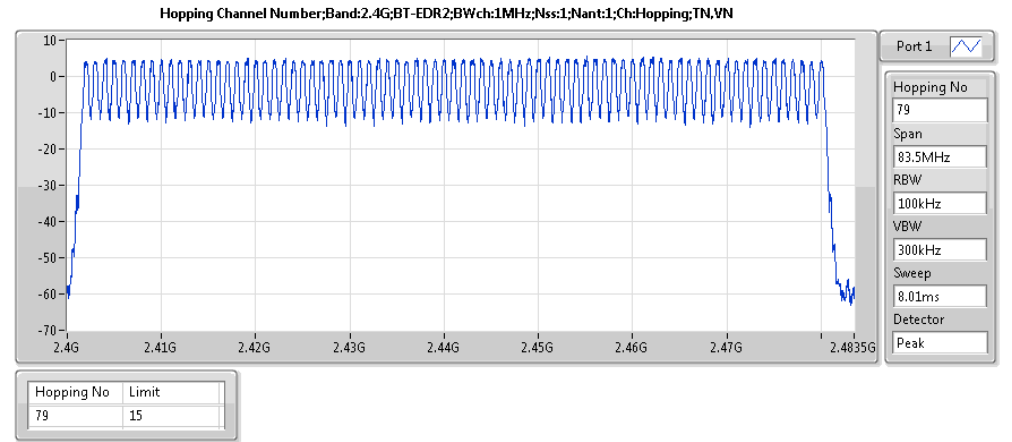
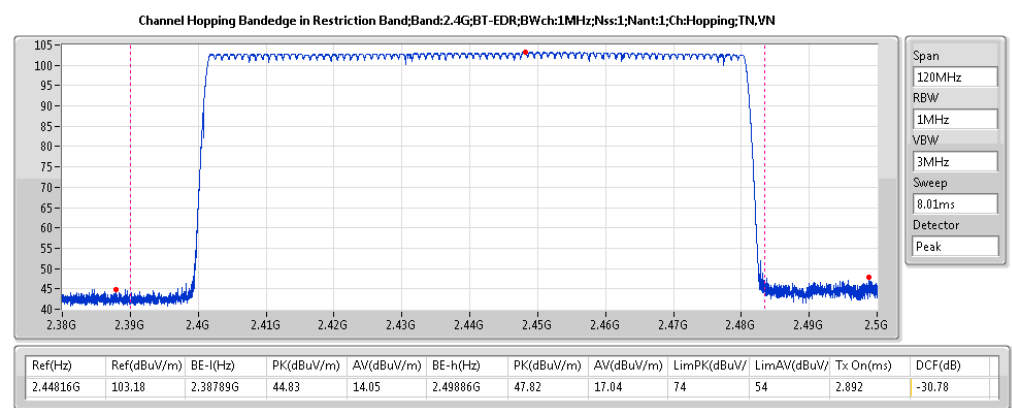
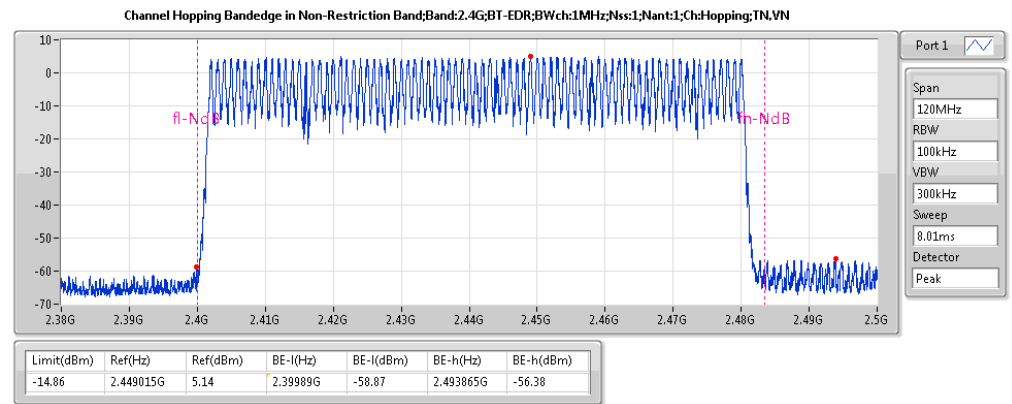
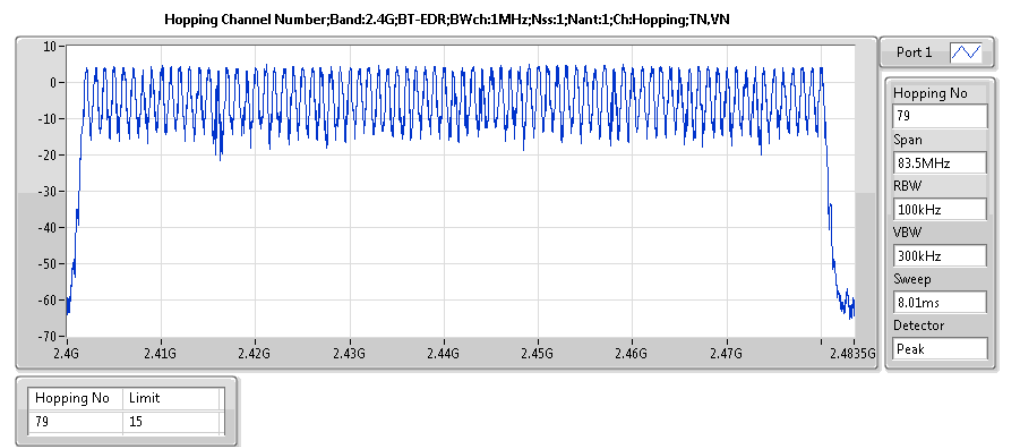
Summary

Mode	Max-Hop No
2.4G;BT-EDR;Nss1;Ntx1	79
2.4G;BT-EDR2;Nss1;Ntx1	79
2.4G;BT-EDR3;Nss1;Ntx1	79



Result

Mode	Result	Hopping No	Limit
2.4G;BT-EDR;Nss1;Ntx1;2402	Pass	79	15
2.4G;BT-EDR2;Nss1;Ntx1;2402	Pass	79	15
2.4G;BT-EDR3;Nss1;Ntx1;2402	Pass	79	15





Summary

Mode	Max-Dwell (s)
2.4G;BT-EDR3;Nss1;Ntx1	308.2872m

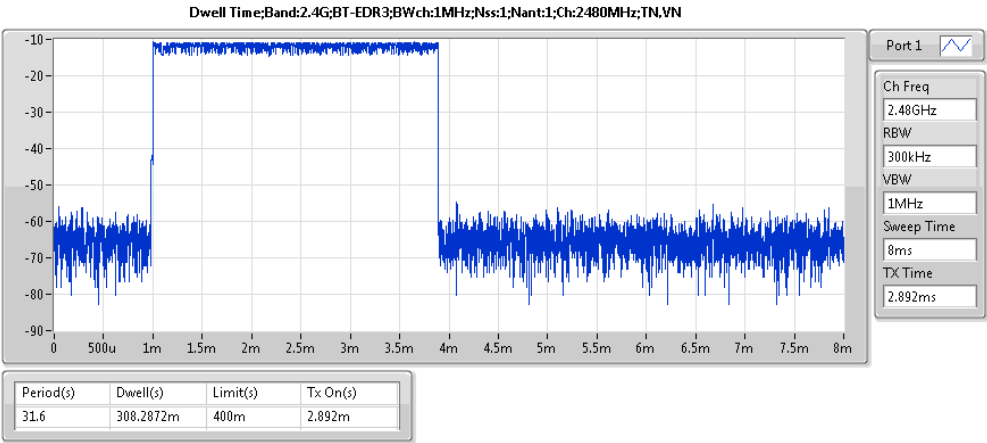
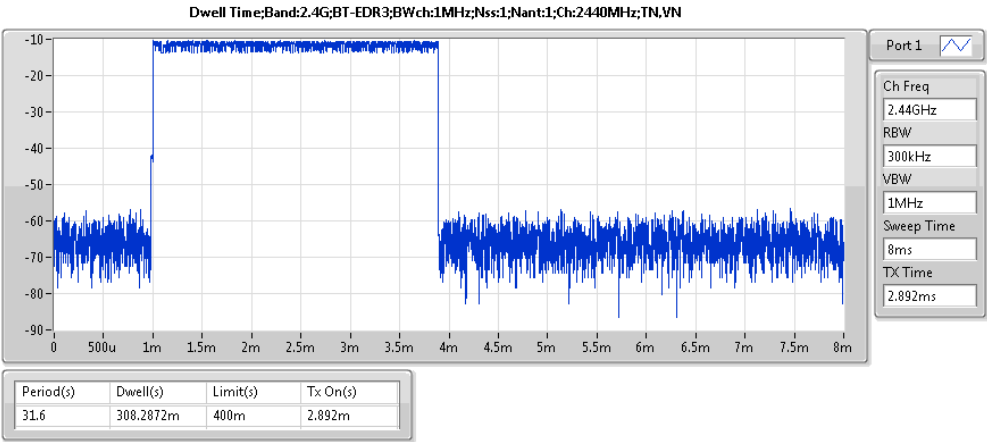
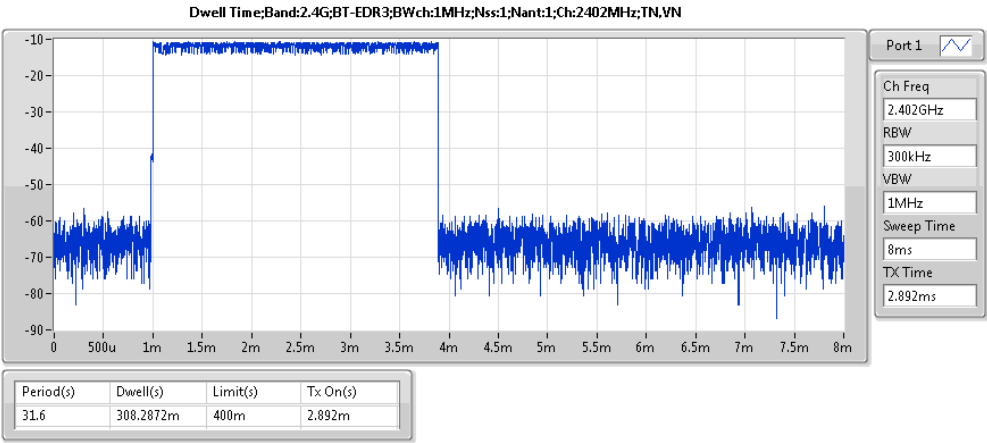


Result

Mode	Result	Period (s)	Dwell (s)	Limit (s)	Tx On (s)
2.4G;BT-EDR3;Nss1;Ntx1;2402	Pass	31.6	308.2872m	400m	2.892m
2.4G;BT-EDR3;Nss1;Ntx1;2440	Pass	31.6	308.2872m	400m	2.892m
2.4G;BT-EDR3;Nss1;Ntx1;2480	Pass	31.6	308.2872m	400m	2.892m



Dwell Time-DSS Result





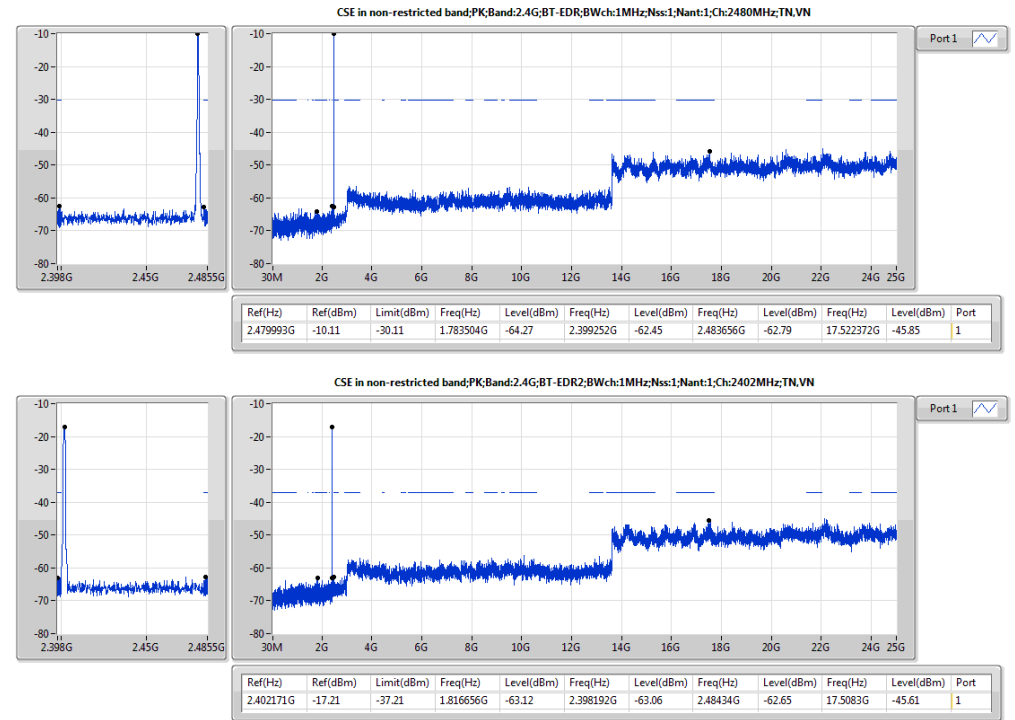
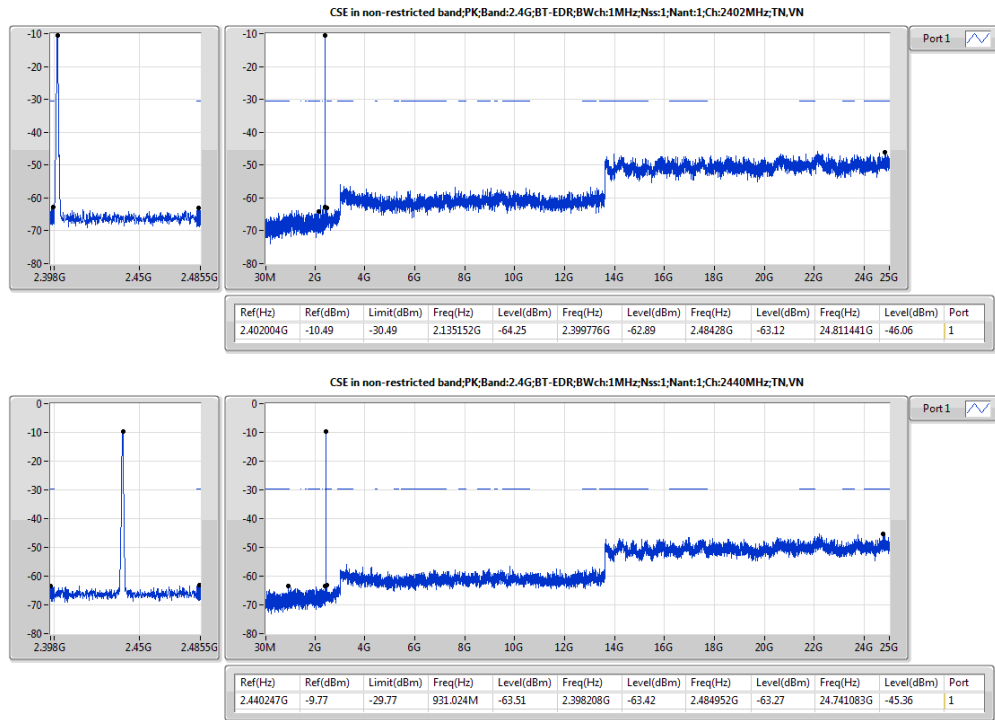
Summary

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4G;BT-EDR2;Nss1;Ntx1;2480	Pass	2.479826G	-17.67	-37.67	1.820208G	-63.08	2.39932G	-62.56	2.4839G	-61.61	14.246512G	-45.40	1



Result

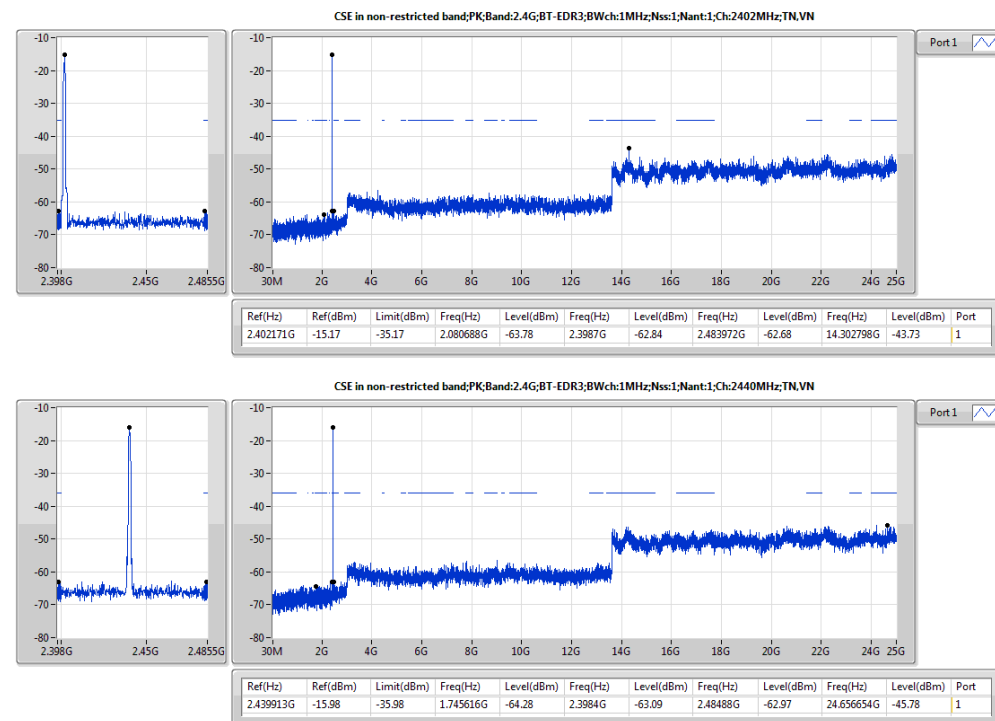
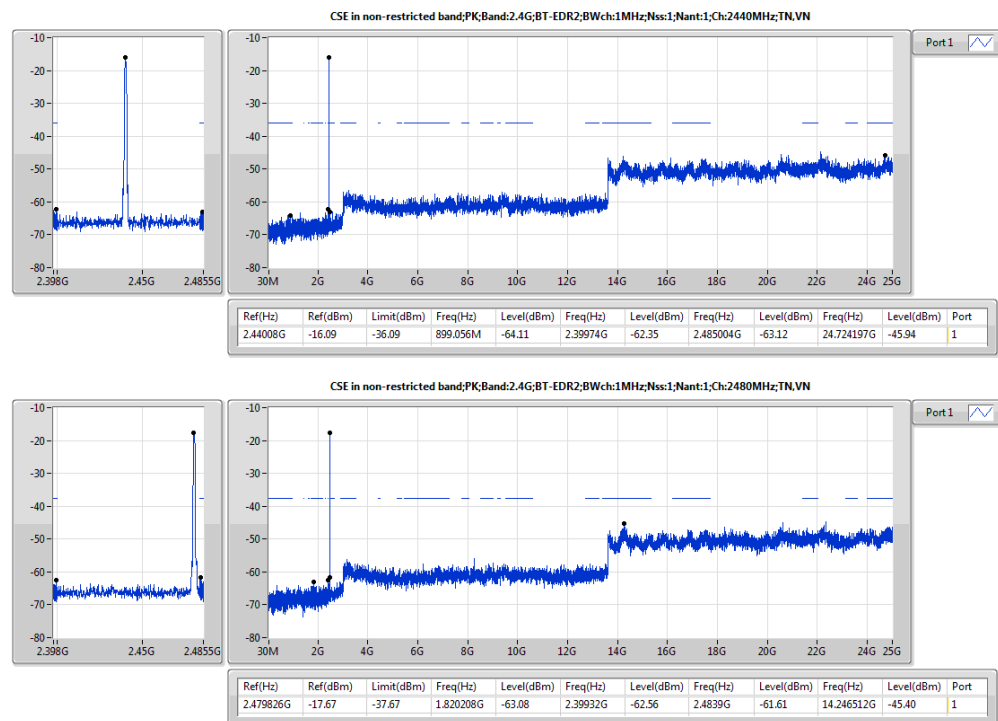
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2.4G;BT-EDR;Nss1;Ntx1;2402	Pass	2.402004G	-10.49	-30.49	2.135152G	-64.25	2.399776G	-62.89	2.48428G	-63.12	24.811441G	-46.06	1
2.4G;BT-EDR;Nss1;Ntx1;2440	Pass	2.440247G	-9.77	-29.77	931.024M	-63.51	2.398208G	-63.42	2.484952G	-63.27	24.741083G	-45.36	1
2.4G;BT-EDR;Nss1;Ntx1;2480	Pass	2.479993G	-10.11	-30.11	1.783504G	-64.27	2.399252G	-62.45	2.483656G	-62.79	17.522372G	-45.85	1
2.4G;BT-EDR2;Nss1;Ntx1;2402	Pass	2.402171G	-17.21	-37.21	1.816656G	-63.12	2.398192G	-63.06	2.48434G	-62.65	17.5083G	-45.61	1
2.4G;BT-EDR2;Nss1;Ntx1;2440	Pass	2.44008G	-16.09	-36.09	899.056M	-64.11	2.39974G	-62.35	2.485004G	-63.12	24.724197G	-45.94	1
2.4G;BT-EDR2;Nss1;Ntx1;2480	Pass	2.479826G	-17.67	-37.67	1.820208G	-63.08	2.39932G	-62.56	2.4839G	-61.61	14.246512G	-45.40	1
2.4G;BT-EDR3;Nss1;Ntx1;2402	Pass	2.402171G	-15.17	-35.17	2.080688G	-63.78	2.3987G	-62.84	2.483972G	-62.68	14.302798G	-43.73	1
2.4G;BT-EDR3;Nss1;Ntx1;2440	Pass	2.439913G	-15.98	-35.98	1.745616G	-64.28	2.3984G	-63.09	2.48488G	-62.97	24.656654G	-45.78	1
2.4G;BT-EDR3;Nss1;Ntx1;2480	Pass	2.479993G	-17.13	-37.13	1.962288G	-64.23	2.399696G	-62.98	2.485016G	-62.79	24.808627G	-45.88	1





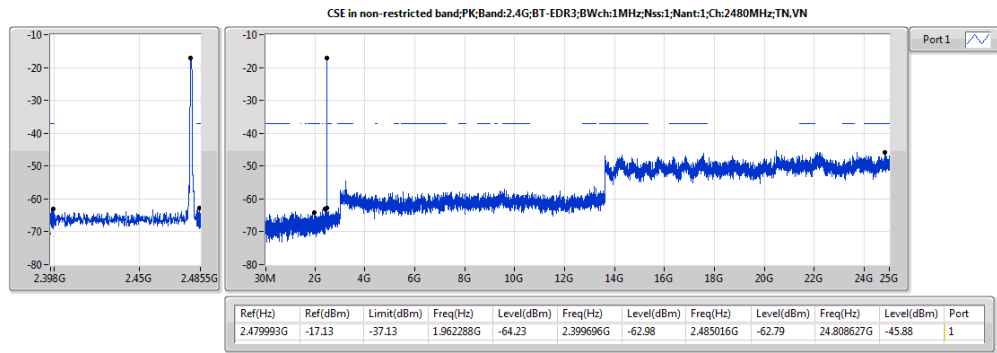
CSEndB-DSS Result

Appendix F





CSEndB-DSS Result





RSE below 1GHz Result																																																																																																												
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Operating Function	CTX																																																																																																											
Level (dBuV/m) Date: 2017-01-10 Time: 11:34:18																																																																																																												
<table><tr><th></th><th>Freq</th><th>Level</th><th>Limit</th><th>Over</th><th>Read</th><th>CableAntenna</th><th>Preamp</th><th>A/Pos</th><th>T/Pos</th><th>Remark</th><th>Pol/Phase</th></tr><tr><th></th><th>MHz</th><th>dBuV/m</th><th>dBuV/m</th><th>dB</th><th>dBuV</th><th>dB</th><th>dB/m</th><th>dB</th><th>cm</th><th>deg</th><th></th></tr><tr><td>1</td><td>350.10</td><td>38.35</td><td>46.00</td><td>-7.65</td><td>43.06</td><td>2.25</td><td>21.00</td><td>27.96</td><td>150</td><td>236 Peak</td><td>HORIZONTAL</td></tr><tr><td>2</td><td>450.01</td><td>38.75</td><td>46.00</td><td>-7.25</td><td>41.91</td><td>2.48</td><td>22.90</td><td>28.54</td><td>125</td><td>198 Peak</td><td>HORIZONTAL</td></tr><tr><td>3</td><td>500.45</td><td>38.76</td><td>46.00</td><td>-7.24</td><td>41.30</td><td>2.58</td><td>23.64</td><td>28.76</td><td>125</td><td>328 Peak</td><td>HORIZONTAL</td></tr><tr><td>4</td><td>700.27</td><td>39.38</td><td>46.00</td><td>-6.62</td><td>39.26</td><td>3.16</td><td>25.60</td><td>28.64</td><td>100</td><td>291 Peak</td><td>HORIZONTAL</td></tr><tr><td>5</td><td>850.62</td><td>40.53</td><td>46.00</td><td>-5.47</td><td>38.15</td><td>3.37</td><td>27.20</td><td>28.19</td><td>100</td><td>82 Peak</td><td>HORIZONTAL</td></tr><tr><td>6</td><td>950.53</td><td>41.32</td><td>46.00</td><td>-4.68</td><td>37.41</td><td>3.62</td><td>28.11</td><td>27.82</td><td>150</td><td>247 Peak</td><td>HORIZONTAL</td></tr></table>														Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		1	350.10	38.35	46.00	-7.65	43.06	2.25	21.00	27.96	150	236 Peak	HORIZONTAL	2	450.01	38.75	46.00	-7.25	41.91	2.48	22.90	28.54	125	198 Peak	HORIZONTAL	3	500.45	38.76	46.00	-7.24	41.30	2.58	23.64	28.76	125	328 Peak	HORIZONTAL	4	700.27	39.38	46.00	-6.62	39.26	3.16	25.60	28.64	100	291 Peak	HORIZONTAL	5	850.62	40.53	46.00	-5.47	38.15	3.37	27.20	28.19	100	82 Peak	HORIZONTAL	6	950.53	41.32	46.00	-4.68	37.41	3.62	28.11	27.82	150	247 Peak	HORIZONTAL
	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase																																																																																																	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg																																																																																																		
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3	500.45	38.76	46.00	-7.24	41.30	2.58	23.64	28.76	125	328 Peak	HORIZONTAL																																																																																																	
4	700.27	39.38	46.00	-6.62	39.26	3.16	25.60	28.64	100	291 Peak	HORIZONTAL																																																																																																	
5	850.62	40.53	46.00	-5.47	38.15	3.37	27.20	28.19	100	82 Peak	HORIZONTAL																																																																																																	
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Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit. Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)																																																																																																												

RSE below 1GHz Result																																																																																																												
Operating Mode	2				Power Phase				Vertical																																																																																																			
Operating Function	CTX																																																																																																											
Level (dBuV/m) Date: 2017-01-10 Time: 11:27:01																																																																																																												
<table><tr><th></th><th>Freq</th><th>Level</th><th>Limit</th><th>Over</th><th>Read</th><th>CableAntenna</th><th>Preamp</th><th>A/Pos</th><th>T/Pos</th><th>Remark</th><th>Pol/Phase</th></tr><tr><th></th><th>MHz</th><th>dBuV/m</th><th>dBuV/m</th><th>dB</th><th>dBuV</th><th>dB</th><th>dB/m</th><th>dB</th><th>cm</th><th>deg</th><th></th></tr><tr><td>1</td><td>350.10</td><td>39.18</td><td>46.00</td><td>-6.82</td><td>43.89</td><td>2.25</td><td>21.00</td><td>27.96</td><td>100</td><td>143 Peak</td><td>VERTICAL</td></tr><tr><td>2</td><td>450.01</td><td>39.67</td><td>46.00</td><td>-6.33</td><td>42.83</td><td>2.48</td><td>22.90</td><td>28.54</td><td>125</td><td>225 Peak</td><td>VERTICAL</td></tr><tr><td>3</td><td>500.45</td><td>38.64</td><td>46.00</td><td>-7.36</td><td>41.18</td><td>2.58</td><td>23.64</td><td>28.76</td><td>100</td><td>138 Peak</td><td>VERTICAL</td></tr><tr><td>4</td><td>850.62</td><td>41.81</td><td>46.00</td><td>-4.19</td><td>39.43</td><td>3.37</td><td>27.20</td><td>28.19</td><td>150</td><td>304 Peak</td><td>VERTICAL</td></tr><tr><td>5</td><td>900.09</td><td>39.61</td><td>46.00</td><td>-6.39</td><td>36.58</td><td>3.45</td><td>27.60</td><td>28.02</td><td>100</td><td>125 Peak</td><td>VERTICAL</td></tr><tr><td>6</td><td>950.53</td><td>40.33</td><td>46.00</td><td>-5.67</td><td>36.42</td><td>3.62</td><td>28.11</td><td>27.82</td><td>100</td><td>159 Peak</td><td>VERTICAL</td></tr></table>														Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		1	350.10	39.18	46.00	-6.82	43.89	2.25	21.00	27.96	100	143 Peak	VERTICAL	2	450.01	39.67	46.00	-6.33	42.83	2.48	22.90	28.54	125	225 Peak	VERTICAL	3	500.45	38.64	46.00	-7.36	41.18	2.58	23.64	28.76	100	138 Peak	VERTICAL	4	850.62	41.81	46.00	-4.19	39.43	3.37	27.20	28.19	150	304 Peak	VERTICAL	5	900.09	39.61	46.00	-6.39	36.58	3.45	27.60	28.02	100	125 Peak	VERTICAL	6	950.53	40.33	46.00	-5.67	36.42	3.62	28.11	27.82	100	159 Peak	VERTICAL
	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase																																																																																																	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg																																																																																																		
1	350.10	39.18	46.00	-6.82	43.89	2.25	21.00	27.96	100	143 Peak	VERTICAL																																																																																																	
2	450.01	39.67	46.00	-6.33	42.83	2.48	22.90	28.54	125	225 Peak	VERTICAL																																																																																																	
3	500.45	38.64	46.00	-7.36	41.18	2.58	23.64	28.76	100	138 Peak	VERTICAL																																																																																																	
4	850.62	41.81	46.00	-4.19	39.43	3.37	27.20	28.19	150	304 Peak	VERTICAL																																																																																																	
5	900.09	39.61	46.00	-6.39	36.58	3.45	27.60	28.02	100	125 Peak	VERTICAL																																																																																																	
6	950.53	40.33	46.00	-5.67	36.42	3.62	28.11	27.82	100	159 Peak	VERTICAL																																																																																																	
Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit. Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)																																																																																																												

Radiated Emissions (1GHz~10th Harmonic)

Configurations	BR (GFSK) CH 0 / Ant. 1
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4805.96	33.96	54.00	-20.04	27.67	6.26	33.08	33.05	156	172	Average	HORIZONTAL
2	4807.68	47.50	74.00	-26.50	41.21	6.26	33.08	33.05	156	172	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4804.40	47.80	74.00	-26.20	41.51	6.26	33.08	33.05	145	82	Peak	VERTICAL
2	4804.48	34.09	54.00	-19.91	27.80	6.26	33.08	33.05	145	82	Average	VERTICAL

Configurations	BR (GFSK) CH 38 / Ant. 1
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4882.08	46.98	74.00	-27.02	40.46	6.28	33.26	33.02	146	185	Peak	HORIZONTAL
2	4884.76	34.19	54.00	-19.81	27.67	6.28	33.26	33.02	146	185	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4882.32	34.43	54.00	-19.57	27.91	6.28	33.26	33.02	123	240	Average	VERTICAL
2	4885.60	47.43	74.00	-26.57	40.91	6.28	33.26	33.02	123	240	Peak	VERTICAL

Configurations	BR (GFSK) CH 78 / Ant. 1
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4963.88	47.71	74.00	-26.29	40.98	6.30	33.41	32.98	152	163	Peak	HORIZONTAL
2	4964.64	34.42	54.00	-19.58	27.69	6.30	33.41	32.98	152	163	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4950.00	34.43	54.00	-19.57	27.74	6.30	33.38	32.99	163	252	Average	VERTICAL
2	4969.28	47.90	74.00	-26.10	41.14	6.30	33.44	32.98	163	252	Peak	VERTICAL

Note:

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Configurations	EDR (8DPSK) CH 0 / Ant. 1
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4805.92	33.84	54.00	-20.16	27.55	6.26	33.08	33.05	145	202	Average	HORIZONTAL
2	4808.96	46.01	74.00	-27.99	39.72	6.26	33.08	33.05	145	202	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4795.00	45.77	74.00	-28.23	39.53	6.25	33.05	33.06	164	129	Peak	VERTICAL
2	4803.72	34.05	54.00	-19.95	27.76	6.26	33.08	33.05	164	129	Average	VERTICAL

Configurations	EDR (8DPSK) CH 38 / Ant. 1
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4874.68	46.55	74.00	-27.45	40.07	6.28	33.23	33.03	134	189	Peak	HORIZONTAL
2	4883.00	34.33	54.00	-19.67	27.81	6.28	33.26	33.02	134	189	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4871.88	46.63	74.00	-27.37	40.15	6.28	33.23	33.03	114	140	Peak	VERTICAL
2	4881.56	34.60	54.00	-19.40	28.08	6.28	33.26	33.02	114	140	Average	VERTICAL

Configurations	EDR (8DPSK) CH 78 / Ant. 1
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Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4919.80	35.16	54.00	-18.84	28.55	6.29	33.32	33.00	123	184	Average	HORIZONTAL
2	4934.40	47.19	74.00	-26.81	40.55	6.29	33.35	33.00	123	184	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4914.00	35.22	54.00	-18.78	28.61	6.29	33.32	33.00	147	283	Average	VERTICAL
2	4920.60	47.26	74.00	-26.74	40.65	6.29	33.32	33.00	147	283	Peak	VERTICAL

Note:

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

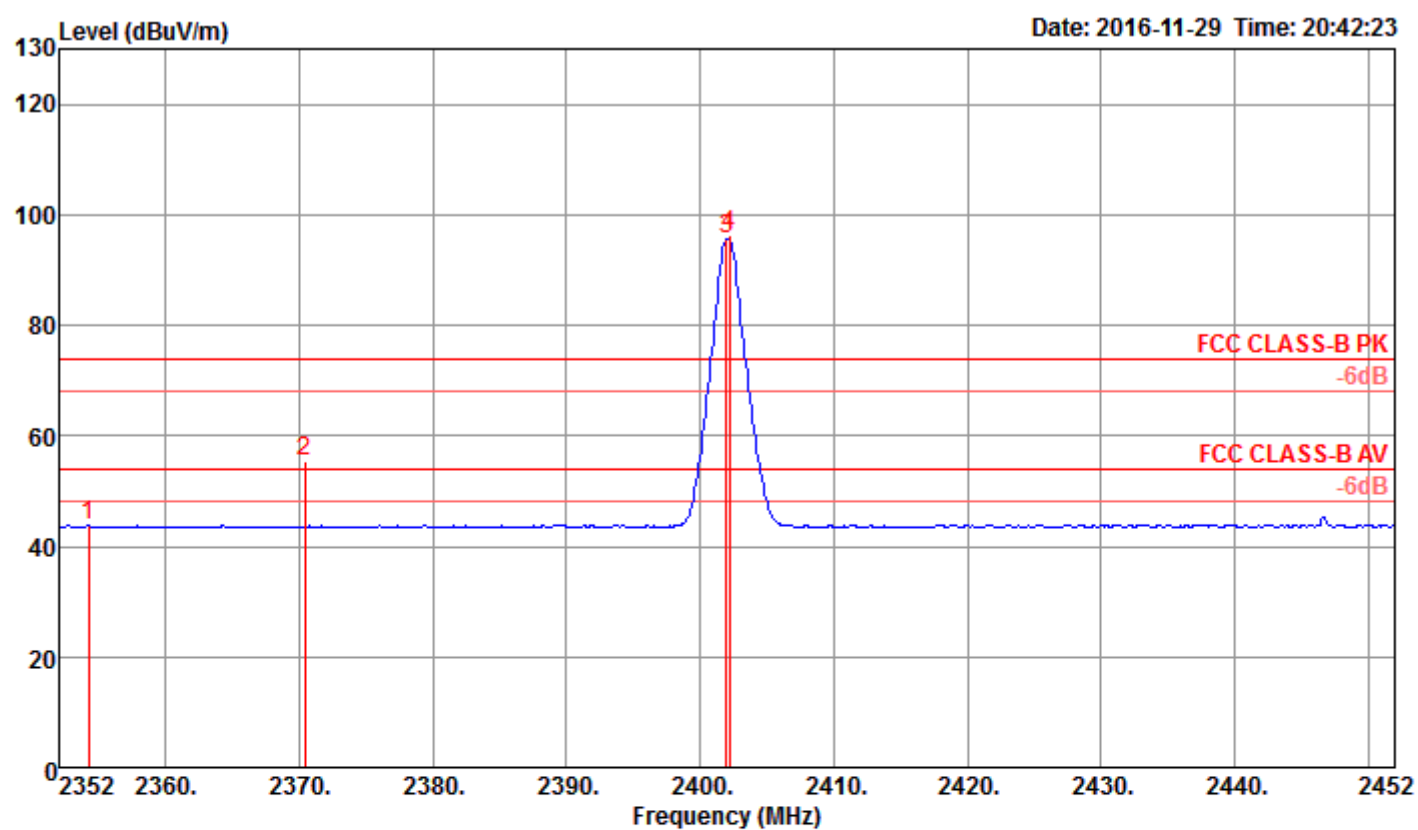
Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Band Edge Emissions

Configurations

BR (GFSK) CH 0, 38, 78 / Ant. 1

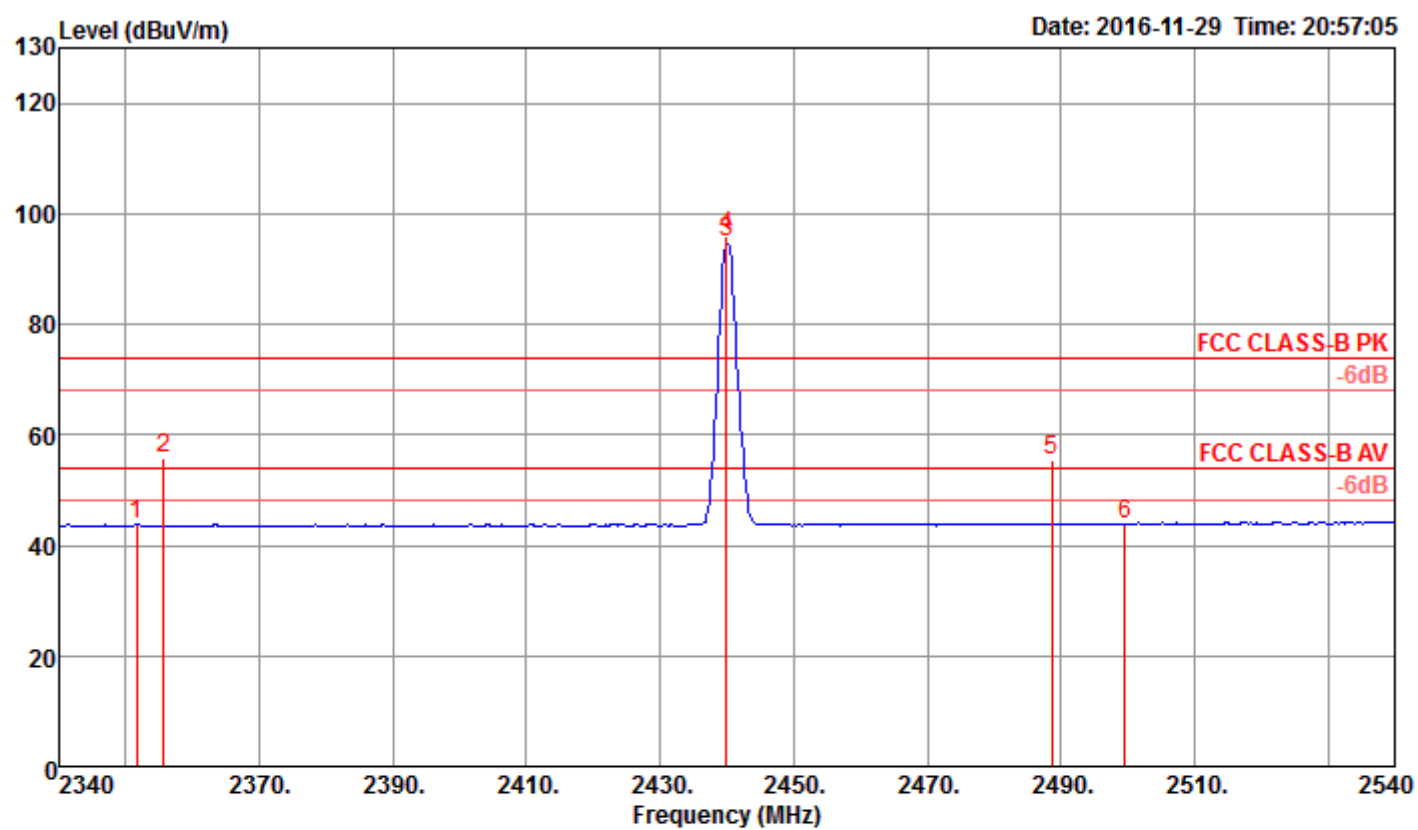
Channel 0



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	2354.20	43.82	54.00	-10.18	12.00	3.57	28.25	0.00	198	30 Average	HORIZONTAL
2	2370.40	55.41	74.00	-18.59	23.53	3.59	28.29	0.00	198	30 Peak	HORIZONTAL
3 @	2402.00	95.63			63.68	3.61	28.34	0.00	198	30 Average	HORIZONTAL
4 @	2402.20	96.49			64.54	3.61	28.34	0.00	198	30 Peak	HORIZONTAL

Item 3, 4 are the fundamental frequency at 2402 MHz.

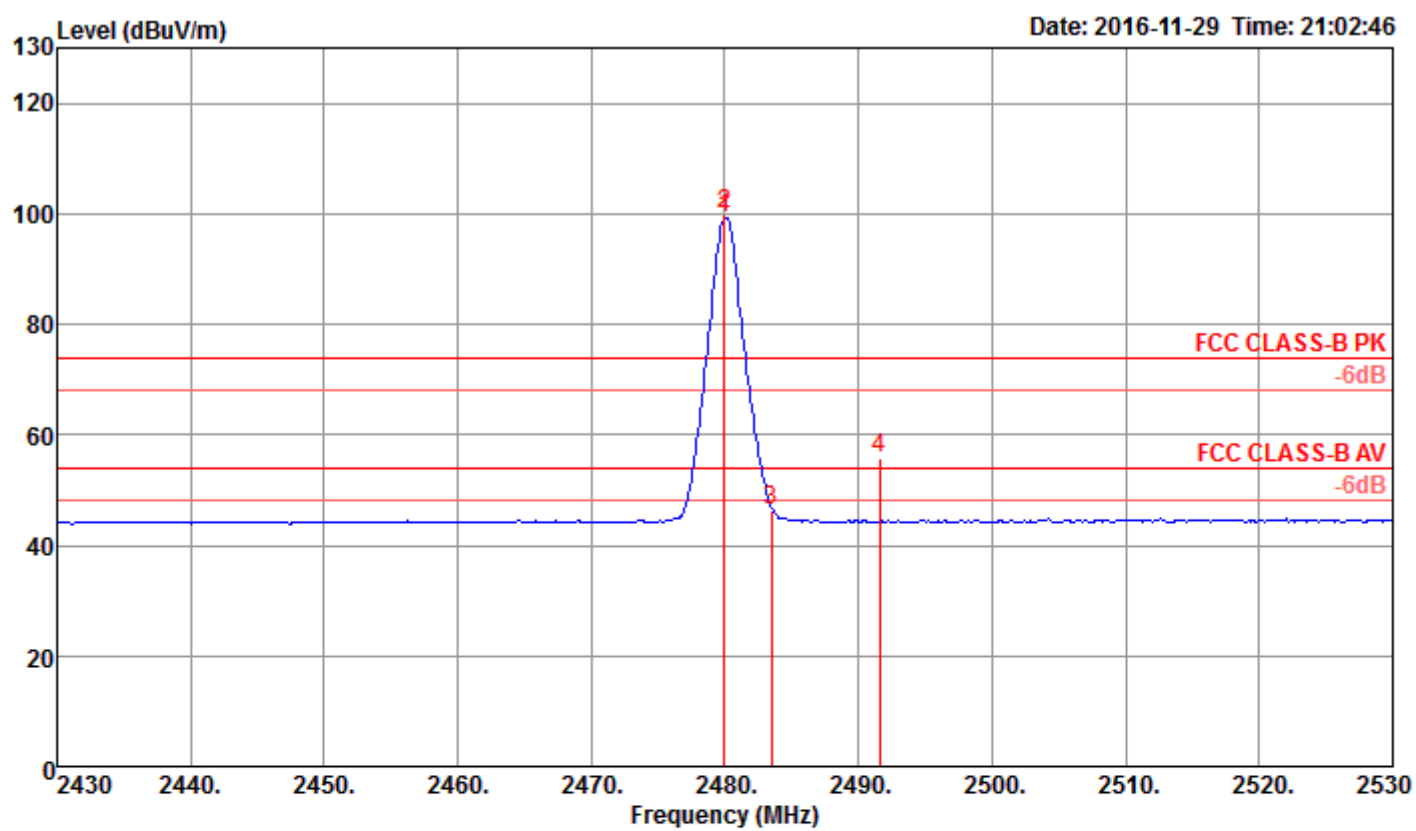
Channel 38



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	cm	deg	
1	2351.60	43.69	54.00	-10.31	11.87	3.57	28.25	0.00	237	31 Average	HORIZONTAL
2	2355.60	55.65	74.00	-18.35	23.83	3.57	28.25	0.00	237	31 Peak	HORIZONTAL
3 @	2440.00	94.91			62.86	3.64	28.41	0.00	237	31 Average	HORIZONTAL
4 @	2440.00	95.80			63.75	3.64	28.41	0.00	237	31 Peak	HORIZONTAL
5	2488.70	55.42	74.00	-18.58	23.26	3.68	28.48	0.00	237	31 Peak	HORIZONTAL
6	2499.60	43.95	54.00	-10.05	11.76	3.69	28.50	0.00	237	31 Average	HORIZONTAL

Item 3, 4 are the fundamental frequency at 2440 MHz.

Channel 78



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1 @	2480.00	99.14			67.01	3.67	28.46	0.00	188	208 Average	VERTICAL
2 @	2480.00	99.92			67.79	3.67	28.46	0.00	188	208 Peak	VERTICAL
3	2483.50	46.20	54.00	-7.80	14.04	3.68	28.48	0.00	188	208 Average	VERTICAL
4	2491.60	55.89	74.00	-18.11	23.72	3.68	28.49	0.00	188	208 Peak	VERTICAL

Item 1, 2 are the fundamental frequency at 2480 MHz.

Note:

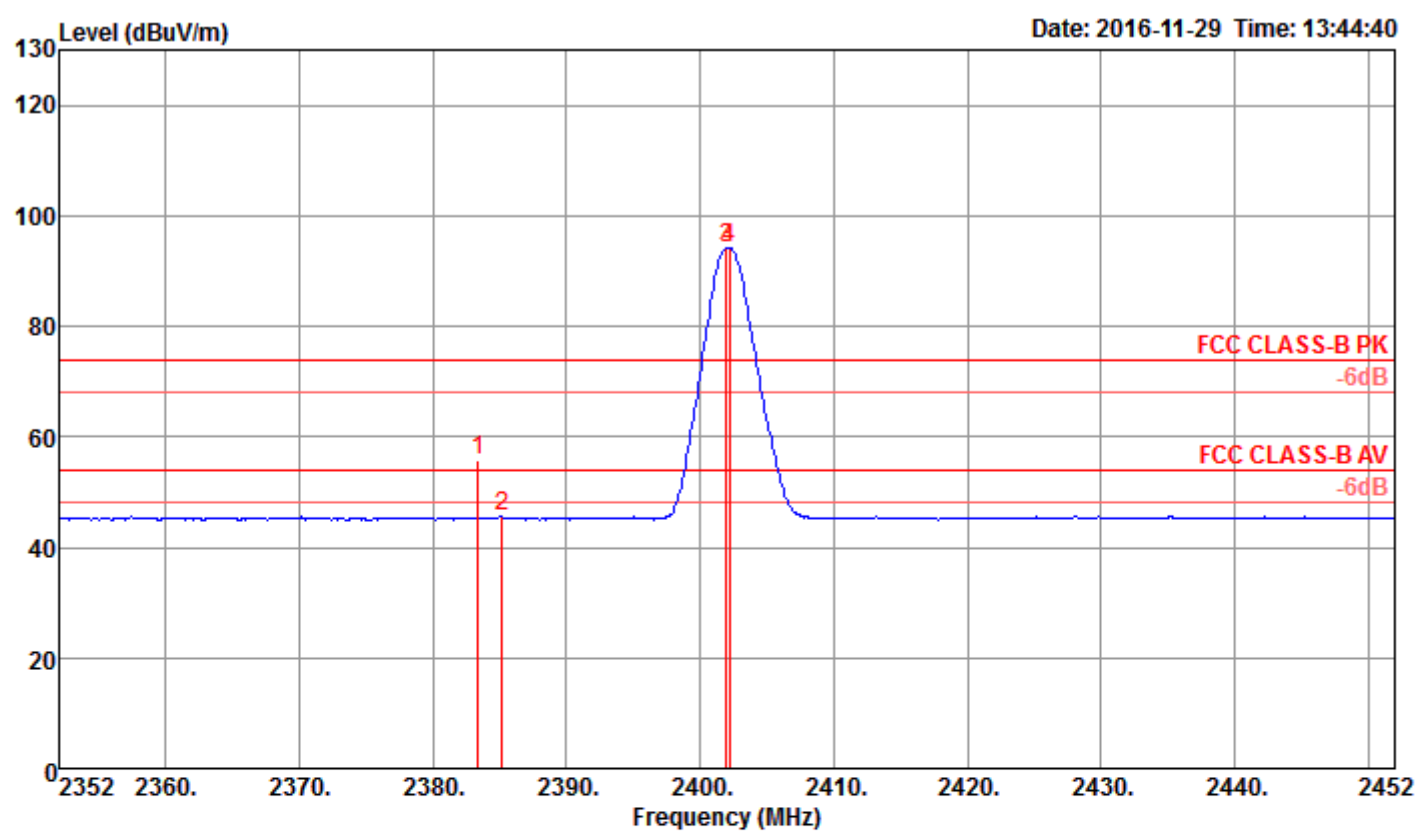
Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Configurations

EDR (8DPSK) CH 0, 38, 78 / Ant. 1

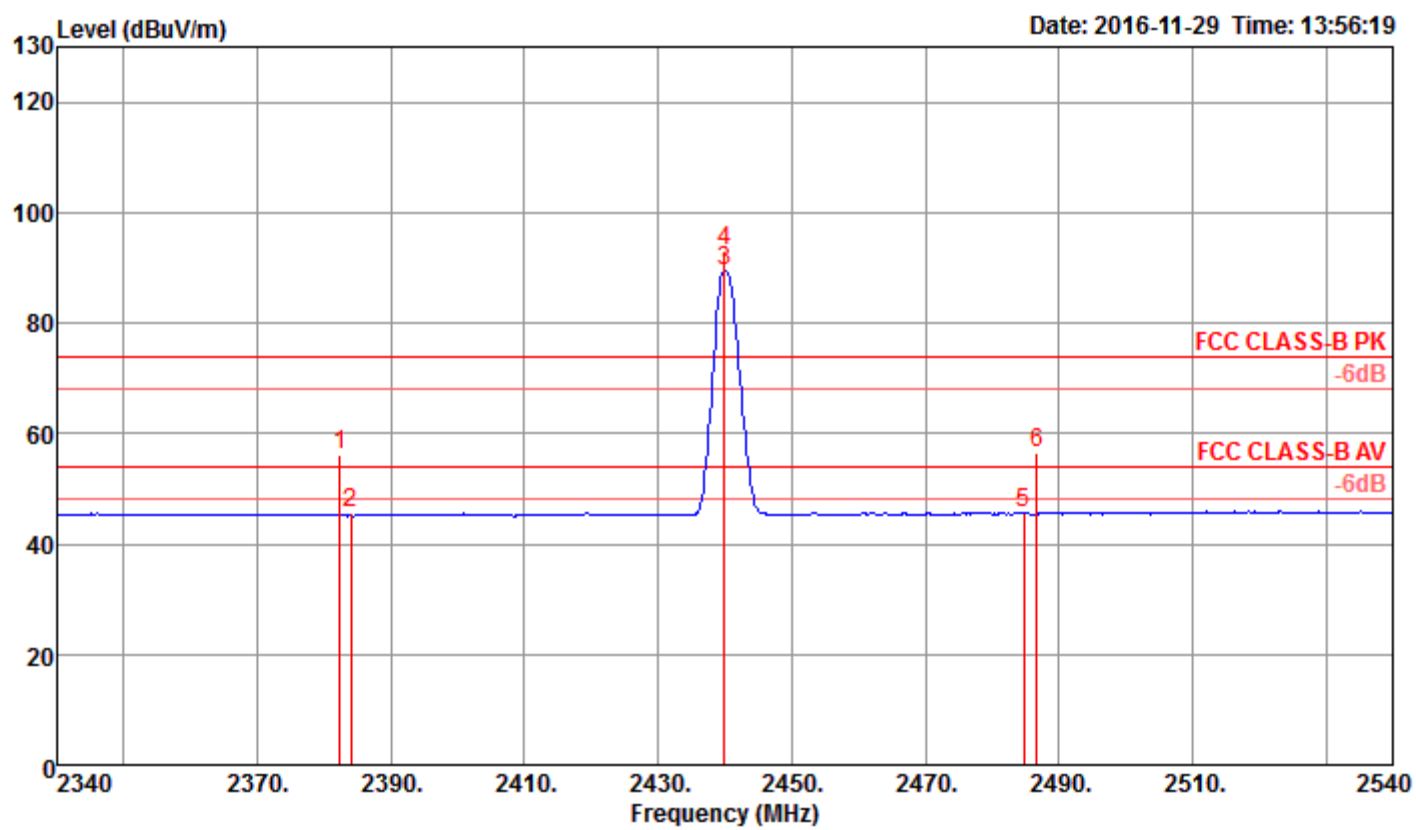
Channel 0



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	2383.40	55.91	74.00	-18.09	24.02	3.59	28.30	0.00	165	194 Peak	VERTICAL
2	2385.20	45.51	54.00	-8.49	13.60	3.60	28.31	0.00	165	194 Average	VERTICAL
3 @	2402.00	94.23			62.28	3.61	28.34	0.00	165	194 Average	VERTICAL
4 @	2402.20	94.09			62.14	3.61	28.34	0.00	165	194 Average	VERTICAL

Item 3, 4 are the fundamental frequency at 2402 MHz.

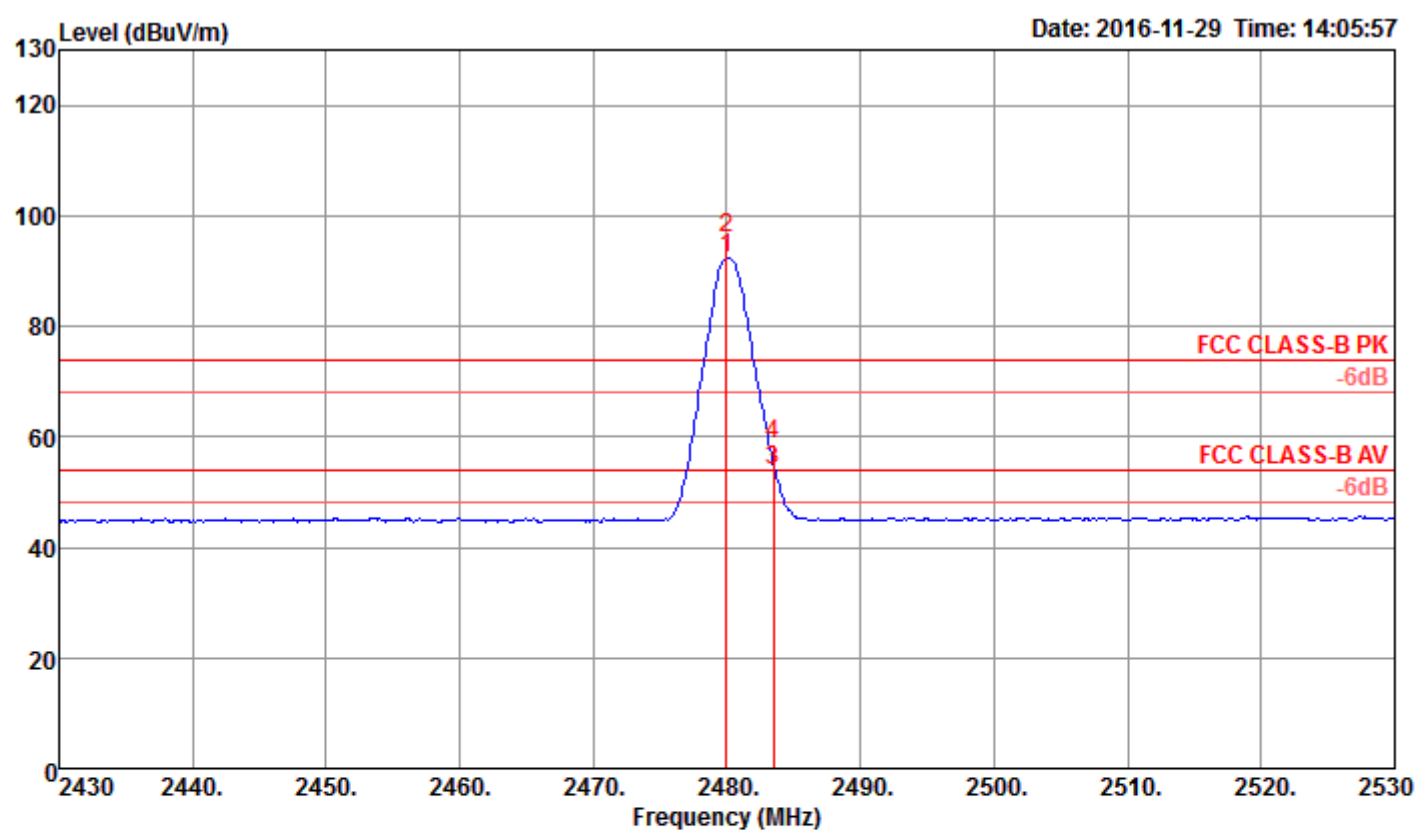
Channel 38



	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	2382.40	56.00	74.00	-18.00	24.11	3.59	28.30	0.00	276	312 Peak	HORIZONTAL
2	2384.00	45.77	54.00	-8.23	13.86	3.60	28.31	0.00	276	312 Average	HORIZONTAL
3 @	2440.00	89.35			57.30	3.64	28.41	0.00	276	312 Average	HORIZONTAL
4 @	2440.00	92.92			60.87	3.64	28.41	0.00	276	312 Peak	HORIZONTAL
5	2484.70	45.50	54.00	-8.50	13.34	3.68	28.48	0.00	276	312 Average	HORIZONTAL
6	2486.70	56.48	74.00	-17.52	24.32	3.68	28.48	0.00	276	312 Peak	HORIZONTAL

Item 3, 4 are the fundamental frequency at 2440 MHz.

Channel 78



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	cm	deg	
1 @	2480.00	92.25			60.12	3.67	28.46	0.00	203	193 Average	VERTICAL
2 @	2480.00	95.90			63.77	3.67	28.46	0.00	203	193 Peak	VERTICAL
3	2483.50	53.78	54.00	-0.22	21.62	3.68	28.48	0.00	203	193 Average	VERTICAL
4	2483.50	58.77	74.00	-15.23	26.61	3.68	28.48	0.00	203	193 Peak	VERTICAL

Item 1, 2 are the fundamental frequency at .

Note:

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.