



**FCC 47 CFR PART 15 SUBPART C
INDUSTRY CANADA RSS-247 ISSUE 2**

CERTIFICATION TEST REPORT

For

FlexNode Line Powered Radio

MODEL NUMBER: FLEX-NODE-LPDC

**FCC ID: TDB-NODE-LP
IC: 9498A-NODELP**

REPORT NUMBER: 4787971580-1

ISSUE DATE: July 21, 2017

Prepared for

**Sensys Networks Inc.
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Prepared by

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Revision History

Rev.	Issue Date	Revisions	Revised By
--	07/21/2017	Initial Issue	

Summary of Test Results			
Clause	Test Items	FCC/IC Rules	Test Results
1	6db DTS Bandwidth	FCC 15.247 (a) (2) IC RSS-247 Clause 5.1 (1)	Complied
2	Peak Conducted Power	FCC 15.247 (b) (3) IC RSS-247 Clause 5.4 (4)	Complied
3	Power Spectral Density	FCC 15.247 (3) IC RSS-247 Clause 5.2 (2)	Complied
4	Conducted Band edge And Spurious emission	FCC 15.247 (d) IC RSS-247 Clause 5.5	Complied
5	Radiated Band edges and Spurious emission	FCC 15.247 (d) FCC 15.209 FCC 15.205 IC RSS-247 Clause 5.5 IC RSS-GEN Clause 8.9	Complied
6	Conducted Emission Test For AC Power Port	FCC 15.207 RSS-GEN Clause 8.8	Complied
7	Antenna Requirement	FCC 15.203 RSS-GEN Clause 8.3	Complied

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1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name: Sensys Networks Inc
Address: Suite 110, 1608 Fourth Street, Berkeley, CA, 94710

Manufacturer Information

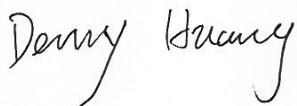
Company Name: Sensys Networks Inc
Address: Suite 110, 1608 Fourth Street, Berkeley, CA, 94710

EUT Description

Product Name FlexNode Line Powered Radio
Brand Name Sensys Networks
Model Name FLEX-NODE-LPDC
Serial Number N/A
Model Difference N/A
Date Tested July 07, 2017 ~ July 17, 2017

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	PASS
INDUSTRY CANADA RSS-247 Issue 2	PASS
INDUSTRY CANADA RSS-GEN Issue 4	PASS

Tested By:



Denny Huang
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Shawn Wen
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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with KDB 558074 D01 V04, KDB414788 D01 Radiated Test Site v01, ANSI C63.10-2013, FCC CFR 47 Part 2, FCC CFR 47 Part 15, RSS-GEN Issue 4, and RSS-247 Issue 2.

3. FACILITIES AND ACCREDITATION

Test Location	Dongguan Dongdian Testing Service Co., Ltd
Address	No. 17, Zongbu Road 2, Songshan Lake Sci&Tech Park, Dongguan City, Guangdong Province, 523808, China
Accreditation Certificate	Dongguan Dongdian Testing Service Co., Ltd. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing. Valid time is until January 31, 2018. Dongguan Dongdian Testing Service Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. Registration 270092, Renewal date March 11, 2015, valid time is until March 11, 2018. The 3m Alternate Test Site of Dongguan Dongdian Testing Service Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 10288A on April 23, 2015, valid time is until April 23, 2018.

Note: The test anechoic chamber in Dongguan Dongdian Testing Service Co., Ltd had been calibrated and compared to the open field sites.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Test Item	Uncertainty
Uncertainty for Conduction emission test	3.32dB (150KHz-30MHz)
	3.72dB (9KHz-150KHz)
Uncertainty for Radiation Emission test(include Fundamental emission) (30MHz-1GHz)	4.70 dB (Antenna Polarize: V)
	4.84 dB (Antenna Polarize: H)
Uncertainty for Radiation Emission test (1GHz to 26GHz)(include Fundamental emission)	4.10dB(1-6GHz)
	4.40dB (6GHz-18Gz)
	3.54dB (18GHz-26Gz)
Bandwidth	1.1%
Stop Transmitting Time Test	0.6%
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

Equipment	FlexNode Line Powered Radio	
Model Name	FLEX-NODE-LPDC	
Product Description	Operation Frequency	2405 MHz ~ 2480 MHz
	Modulation Technology	Data Rate
	DSSS	250Kbps
Rate Power	DC 12V	
Hardware Version	Rev.A	
Software Version	108.3.7	

5.2. MAXIMUM OUTPUT POWER

Frequency Range (MHz)	Antenna	Mode	Frequency (MHz)	Channel Number	Max EIRP (dBm)
2405-2480	1	ZigBee	2405-2480	0-15[16]	9.10
2405-2480	2	ZigBee	2405-2480	0-15[16]	8.90
2405-2480	3	ZigBee	2405-2480	0-15[16]	17.60

5.3. CHANNEL LIST

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2405	4	2425	8	2445	12	2465
1	2410	5	2430	9	2450	13	2470
2	2415	6	2435	10	2455	14	2475
3	2420	7	2440	11	2460	15	2480

5.4. TEST CHANNEL CONFIGURATION

Test Mode	Test Channel	Frequency
ZIGBEE	CH 0, CH 7, CH 15	2405MHz, 2440MHz, 2480MHz

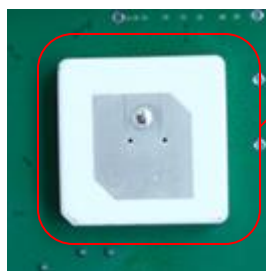
5.5. THE WORSE CASE POWER SETTING PARAMETER

The Worst Case Power Setting Parameter under 2400 ~ 2483.5MHz Band				
Test Software Version		N/A		
Modulation Type	Transmit Antenna Number	Tera Term		
		CH 0	CH 7	CH 15
GFSK	1	Default	Default	Default

5.6. DESCRIPTION OF AVAILABLE ANTENNAS

Ant.	Frequency (MHz)	Antenna Type	Antenna Gain (dBi)
1	2405-2480	Internal Antenna	5.5

Test Mode	Transmit and Receive Mode	Description
ZigBee	☒ 1TX, 1RX	Antenna 1 can be used as transmitting/receiving antenna.



Antenna 1

Ant.	Frequency (MHz)	Antenna Type	Antenna Gain (dBi)
2	2405-2480	External Antenna	5.30

Test Mode	Transmit and Receive Mode	Description
ZigBee	☒ 1TX, 1RX	Antenna 2 can be used as transmitting/receiving antenna.



Antenna 2

Ant.	Frequency (MHz)	Antenna Type	Antenna Gain (dBi)
3	2405-2480	External Antenna	14.0

Test Mode	Transmit and Receive Mode	Description
ZigBee	☒ 1TX, 1RX	Antenna 3 can be used as transmitting/receiving antenna.



Antenna 3

Note 1: The EUT have 3 antennas, but only 1 antenna active at any moment in time.

Note 2: The circuit before the three difference antenna are the same, so for the conducted test we only perform one output port and for the radiated test we perform both three antennas.

5.7. TEST ENVIRONMENT

Environment Parameter	Selected Values During Tests	
Relative Humidity	55 ~ 65%	
Atmospheric Pressure:	1025Pa	
Temperature	TN	23 ~ 28°C
Voltage :	VL	N/A
	VN	DC 12V
	VH	N/A

Note: VL= Lower Extreme Test Voltage

VN= Nominal Voltage

VH= Upper Extreme Test Voltage

TN= Normal Temperature

5.8. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Item	Equipment	Brand Name	Model Name	FCC ID
1	Laptop	ThinkPad	T410	N/A
2	USB to Serial Conversion board	N/A	N/A	N/A

I/O PORT

Cable No	Port	Connector Type	Cable Type	Cable Length(m)	Remarks
1	DC In	DC	Unshielded	N/A	DC 12V

Note: The EUT don't have a DC input cable.

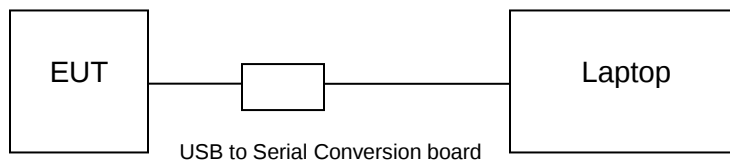
ACCESSORY

Item	Accessory	Brand Name	Model Name	Description
1	N/A	N/A	N/A	N/A

TEST SETUP

The EUT can work in an engineer mode with a software through a table PC.

SETUP DIAGRAM FOR TESTS



5.9. MEASURING INSTRUMENT AND SOFTWARE USED

Instrument (Conducted for RF Port)						
Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
☒	Spectrum Analyzer	R&S	FSU26	1166.1660.26	2016/10/16	1 Year
Instrument (Radiated Tests)						
Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Expired date
☒	EMI Test Receiver	R&S	ESU8	100316	2016/10/16	1 Year
☒	Spectrum analyzer	R&S	FSU26	1166.1660.26	2016/10/16	1 Year
☒	Trilog Broadband Antenna	Schwarzbeck	VULB9163	9163-462	2016/10/27	1 Year
☒	Active Loop antenna	Schwarzbeck	FMZB-1519	1519-038	2016/10/27	1 Year
☒	Double Ridged Horn Antenna	R&S	HF907	100276	2016/10/12	1 Year
☒	High Gain Horn Antenna	ETS-LINDGERN	3160-09	SEL0076	2016/10/16	1 Year
☒	Pre-amplifier	A.H.	PAM-0118	360	2016/10/16	1 Year
☒	Pre-amplifier	Compliance Directions Systems Inc.	PAP-1G26-48	6279.628	2017/01/05	1 Year
☒	RF Cable	HUBSER	CP-X2	W11.03	2016/10/16	1 Year
☒	RF Cable	HUBSER	CP-X1	W12.02	2016/10/16	1 Year
☒	MI Cable	HUBSER	C10-01-01-1M	1091629	2016/10/16	1 Year
☒	Test software	Audix	E3	V 6.11111b	N/A	N/A
Instrument (Line Conducted Emission (AC Main))						
Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Expired date
☒	Test Receiver	R&S	ESU8	100316	2016/10/16	1 Year
☒	LISN 1	R&S	ENV216	101109	2016/10/16	1 Year
☒	LISN 2	R&S	ESH2-Z5	100309	2016/10/16	1 Year
☒	Pulse Limiter	R&S	ESH3-Z2	101242	2016/10/16	1 Year
☒	CE Cable 1	HUBSER	ESU8/RF2	W10.01	2016/10/16	1 Year
☒	Test software	Audix	E3	V 6.11111b	N/A	N/A

6. ANTENNA PORT TEST RESULTS

6.1. ON TIME AND DUTY CYCLE

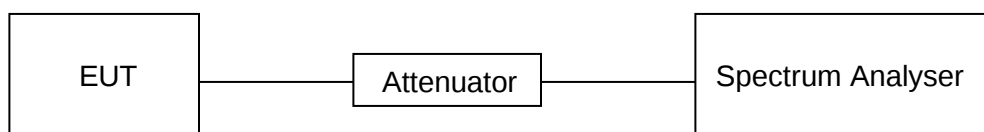
LIMITS

None; for reporting purposes only

PROCEDURE

KDB 558074 Zero-Span Spectrum Analyzer Method

TEST SETUP

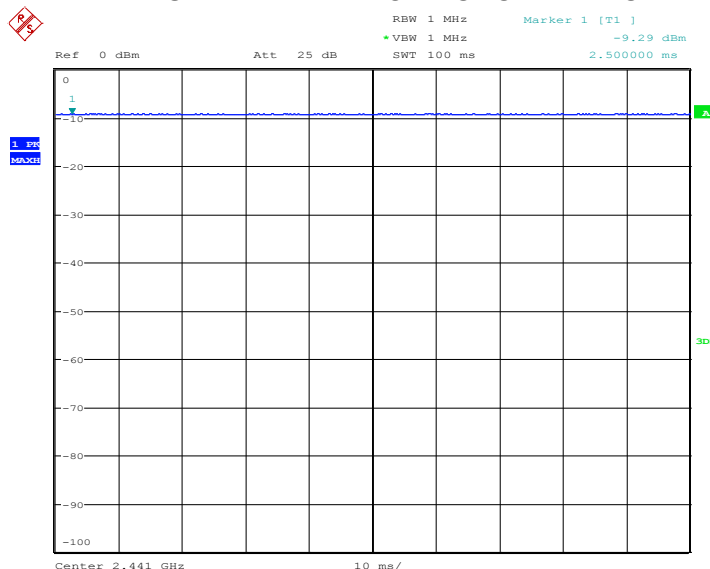


RESULTS

Mode	On Time (msec)	Period (msec)	Duty Cycle x (Linear)	Duty Cycle (%)	Duty Cycle Correction Factor (db)	1/B Minimum VBW (KHz)
ZigBee	100	100	1	100	0	0.01

Note: Duty Cycle Correction Factor=10log(1/x).
Where: x is Duty Cycle(Linear)

ON TIME AND DUTY CYCLE MID CH



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6.2. 6 dB BANDWIDTH & 99% BANDWIDTH

LIMITS

FCC Part15 (15.247) , Subpart C			
Section	Test Item	Limit	Frequency Range (MHz)
FCC 15.247 (a) (1)	6dB Bandwidth	$\geq 500\text{KHz}$	2400-2483.5

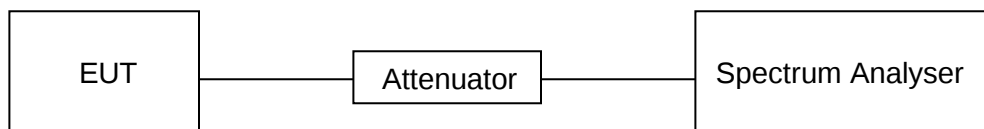
TEST PROCEDURE

Connect the UUT to the spectrum analyser and use the following settings:

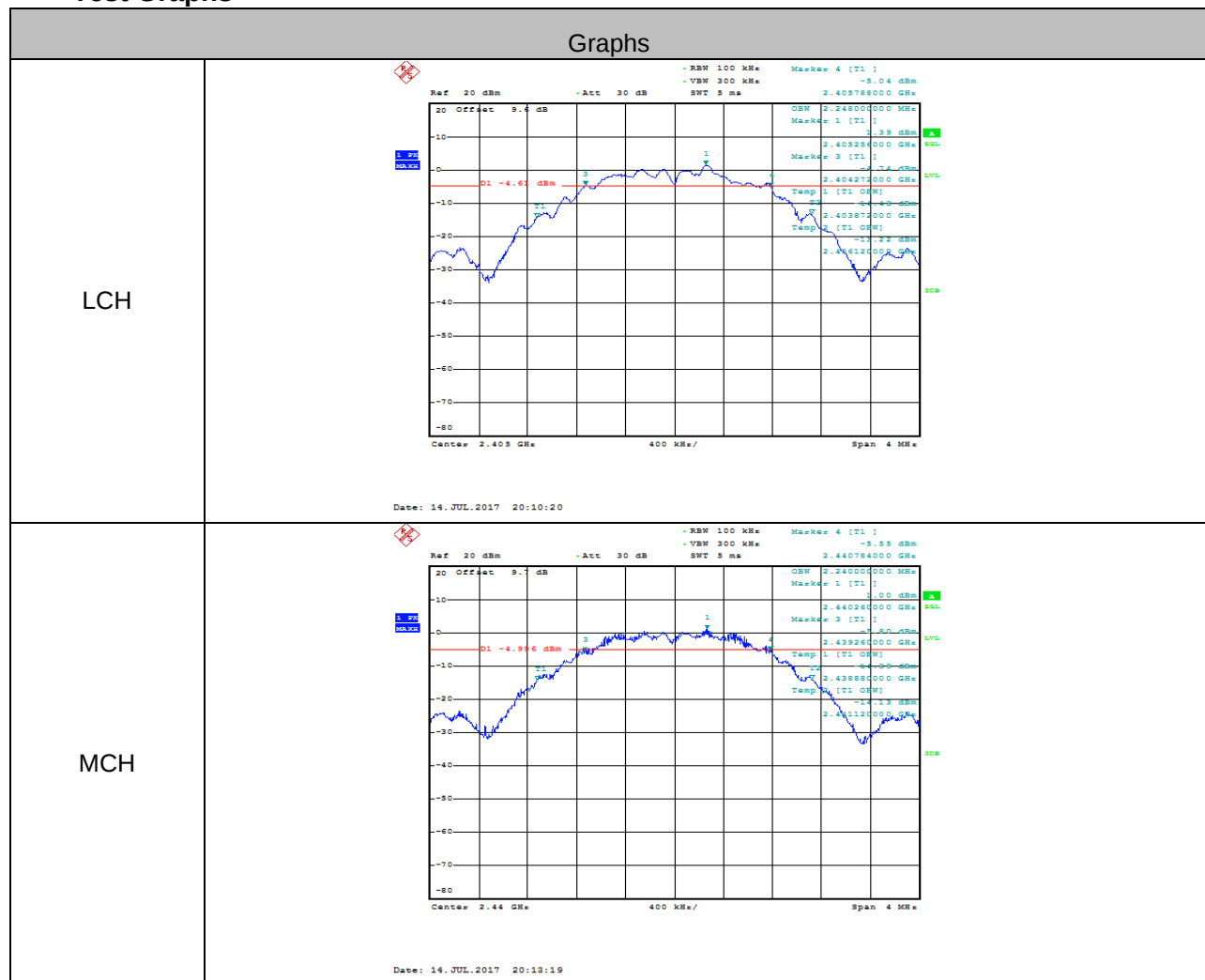
Center Frequency	The centre frequency of the channel under test
Detector	Peak
RBW	100K
VBW	$\geq 3 \times \text{RBW}$
Trace	Max hold
Sweep	Auto couple

Allow the trace to stabilize and measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

TEST SETUP



Channel	Frequency (MHz)	6dB bandwidth (MHz)	99% Bandwidth (MHz)	Result
Low	2405	1.516	2.248	Pass
Middle	2440	1.524	2.240	Pass
High	2480	1.576	2.260	Pass



Ref 20 dBm -Act 30 dB BW 100 MHz VMW 300 MHz SWT 5 ms Marker 4 [T1] -6.43 dBm 2.48024000 GHz

20 Offset 9.9 dB

10

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D1 -6.346 dBm

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6.3. PEAK CONDUCTED OUTPUT POWER

LIMITS

FCC Part15 (15.247) , Subpart C IC RSS-247 ISSUE 2			
Section	Test Item	Limit	Frequency Range (MHz)
FCC 15.247(b)(3) IC RSS-247 5.4 (4)	Peak Output Power	1 watt or 30dBm	2400-2483.5

Note: The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

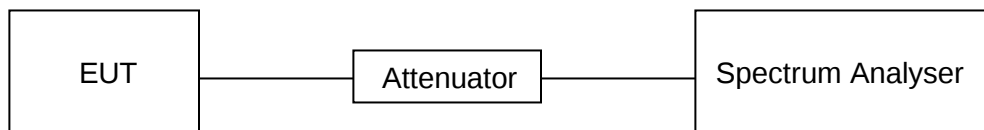
TEST PROCEDURE

Connect the UUT to the spectrum analyser and use the following settings:

Center Frequency	The centre frequency of the channel under test
Detector	Peak
RBW	$\geq$ DTS bandwidth(e.g. 1 MHz for BLE)
VBW	$\geq 3 \times$ RBW
Span	3 x RBW
Trace	Max hold
Sweep time	Auto couple.

Allow trace to fully stabilize and use peak marker function to determine the peak amplitude level.

TEST SETUP



RESULTS

Antenna 1				
Test Channel	Frequency	Maximum Conducted Output Power(PK)	EIRP	LIMIT
	(MHz)	(dBm)	(dBm)	dBm
CH 0	2405	3.600	9.10	30
CH 7	2440	3.410	8.91	30
CH 15	2480	2.910	8.41	30

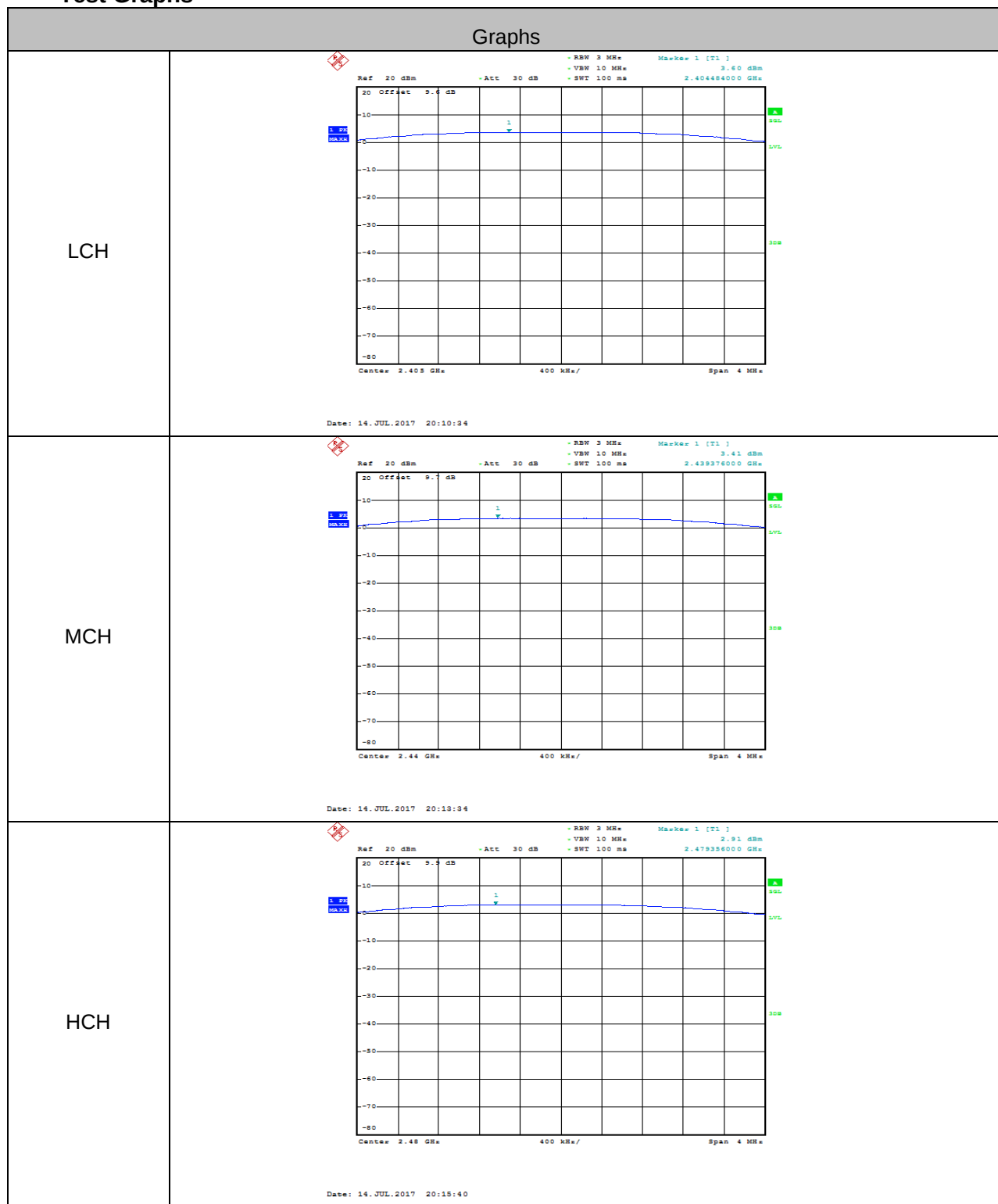
Antenna 2				
Test Channel	Frequency	Maximum Conducted Output Power(PK)	EIRP	LIMIT
	(MHz)	(dBm)	(dBm)	dBm
CH 0	2405	3.600	8.90	30
CH 7	2440	3.410	8.71	30
CH 15	2480	2.910	8.21	30

Antenna 3				
Test Channel	Frequency	Maximum Conducted Output Power(PK)	EIRP	LIMIT
	(MHz)	(dBm)	(dBm)	dBm
CH 0	2405	3.600	17.60	27
CH 7	2440	3.410	17.41	27
CH 15	2480	2.910	16.91	27

Note 1: EIRP = Maximum Conducted Output Power (PK) + Antenna Gain

Note 2: The gain of antenna 3 is 14dBi which is larger than 6dBi, so the limit of the power will reduce to 27dBi according to the FCC rule.

Test Graphs



6.4. POWER SPECTRAL DENSITY

LIMITS

FCC Part15 (15.247) , Subpart C IC RSS-247 ISSUE 2			
Section	Test Item	Limit	Frequency Range (MHz)
FCC §15.247 (e) IC RSS-247 5.2 (2)	Power Spectral Density	8 dBm in any 3 kHz band	2400-2483.5

TEST PROCEDURE

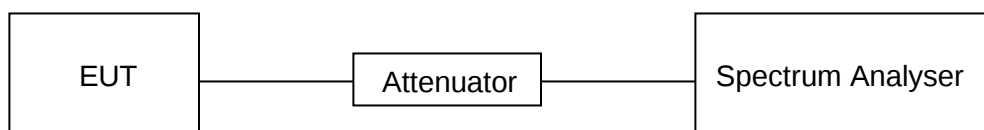
Connect the UUT to the spectrum analyser and use the following settings:

Center Frequency	The centre frequency of the channel under test
Detector	Peak
RBW	$3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$
VBW	$\geq 3 \times \text{RBW}$
Span	$1.5 \times \text{DTS bandwidth}$
Trace	Max hold
Sweep time	Auto couple.

Allow trace to fully stabilize and use the peak marker function to determine the maximum amplitude level within the RBW.

If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

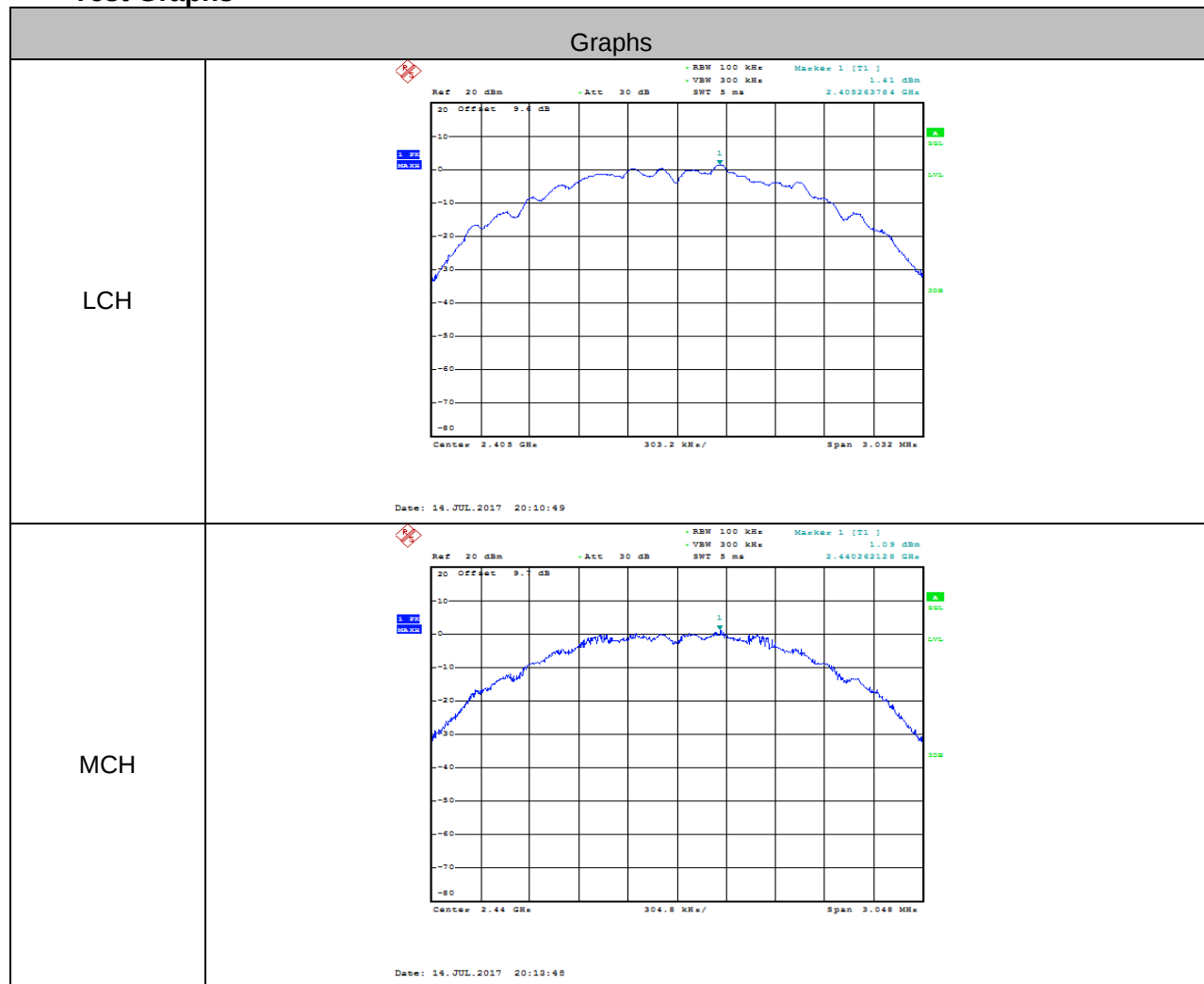
TEST SETUP

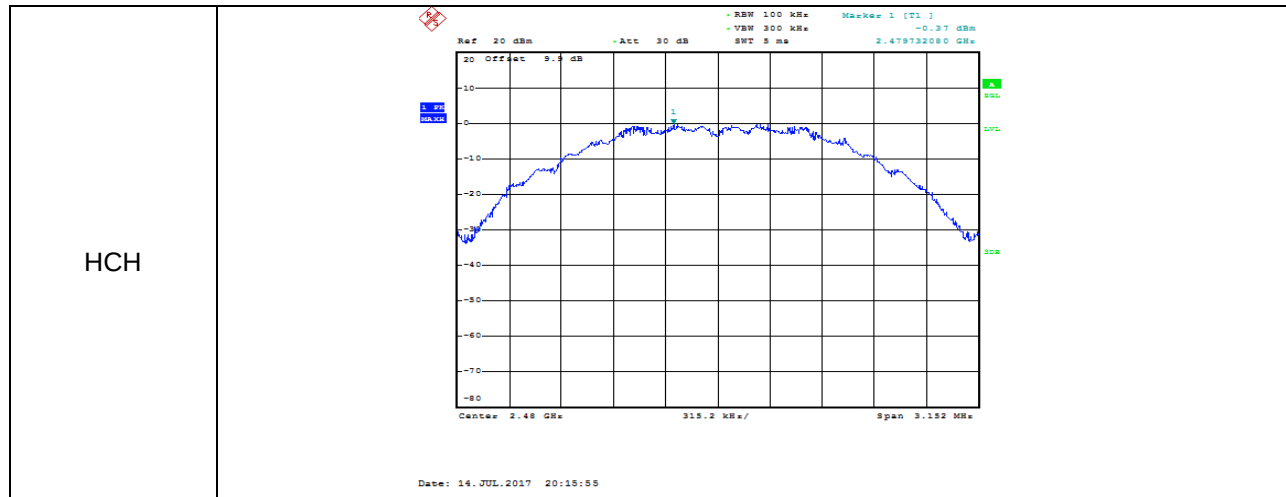


RESULTS

Frequency	Power Spectral Density (dBm)	Limit (dBm)	Result
2405 MHz	1.410	8	PASS
2440 MHz	1.090	8	PASS
2480 MHz	-0.370	8	PASS

Test Graphs





6.5. CONDUCTED BANDEGE AND SPURIOUS EMISSIONS

LIMITS

FCC Part15 (15.247) , Subpart C IC RSS-247 ISSUE 2		
Section	Test Item	Limit
FCC §15.247 (d) IC RSS-247 5.5	Conducted Bandedge and Spurious Emissions	at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power

TEST PROCEDURE

Connect the UUT to the spectrum analyser and use the following settings:

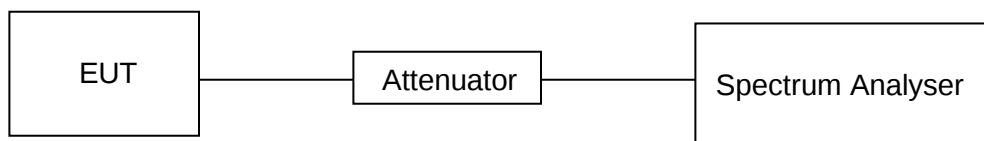
Center Frequency	The centre frequency of the channel under test
Detector	Peak
RBW	100K
VBW	$\geq 3 \times \text{RBW}$
Span	$1.5 \times \text{DTS bandwidth}$
Trace	Max hold
Sweep time	Auto couple.

Use the peak marker function to determine the maximum PSD level.

Span	Set the center frequency and span to encompass frequency range to be measured
Detector	Peak
RBW	100K
VBW	$\geq 3 \times \text{RBW}$
measurement points	$\geq \text{span}/\text{RBW}$
Trace	Max hold
Sweep time	Auto couple.

Use the peak marker function to determine the maximum amplitude level.

TEST SETUP

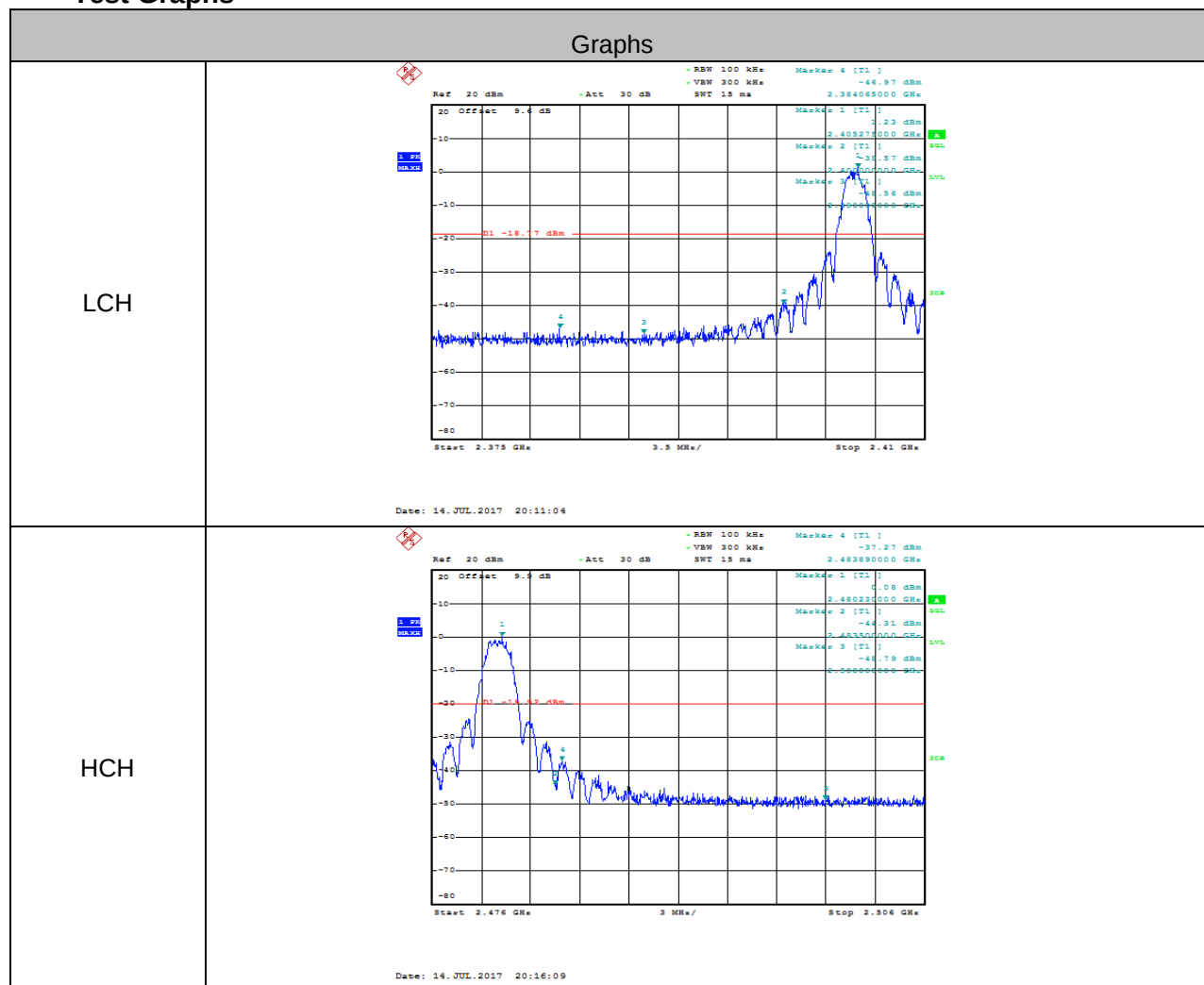


RESULTS

Conducted Bandedge

Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Max Spurious Level [dBm]	Limit [dBm]	Results
LCH	2405	1.230	-46.969	-18.77	PASS
HCH	2480	0.080	-37.271	-19.92	PASS

Test Graphs

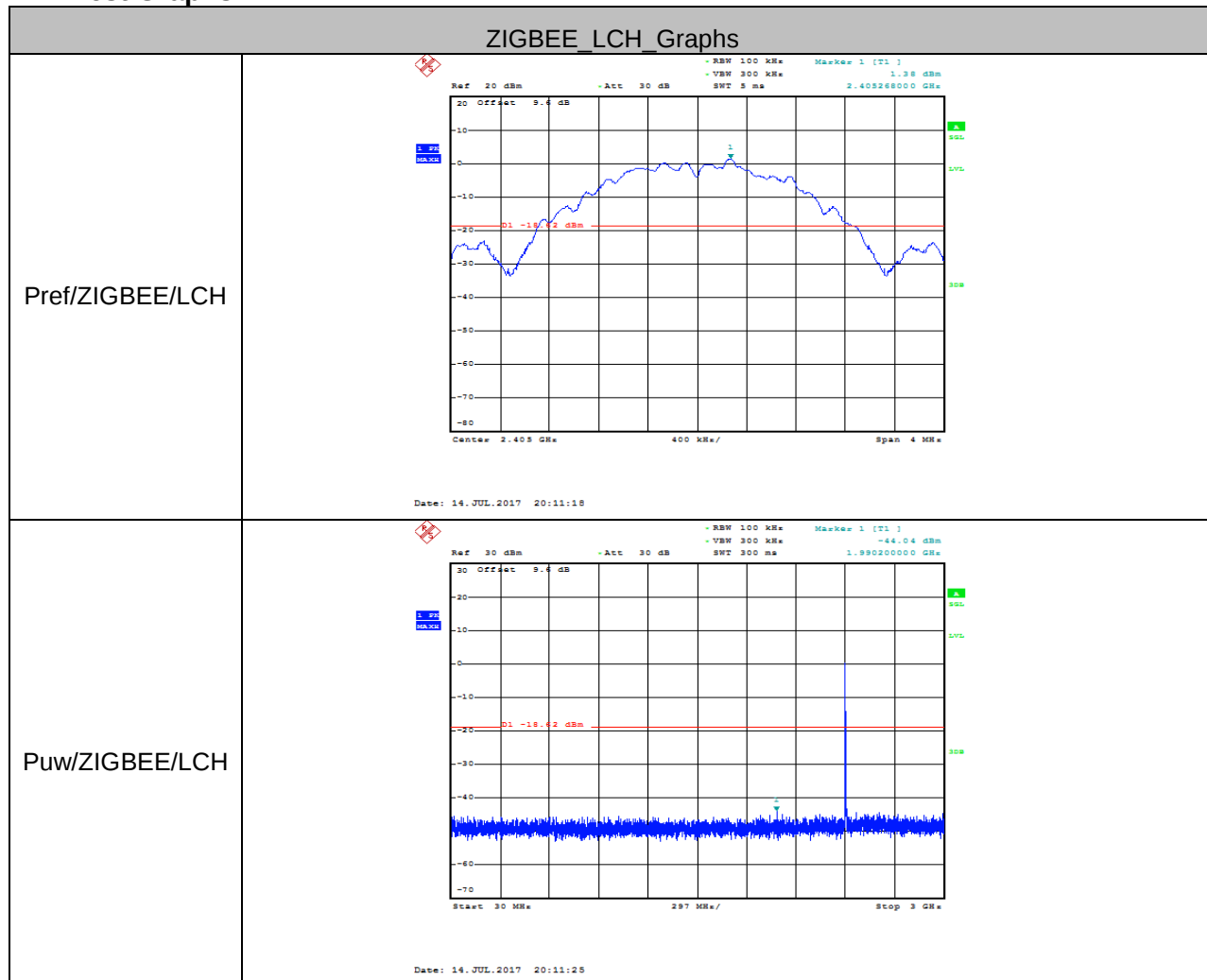


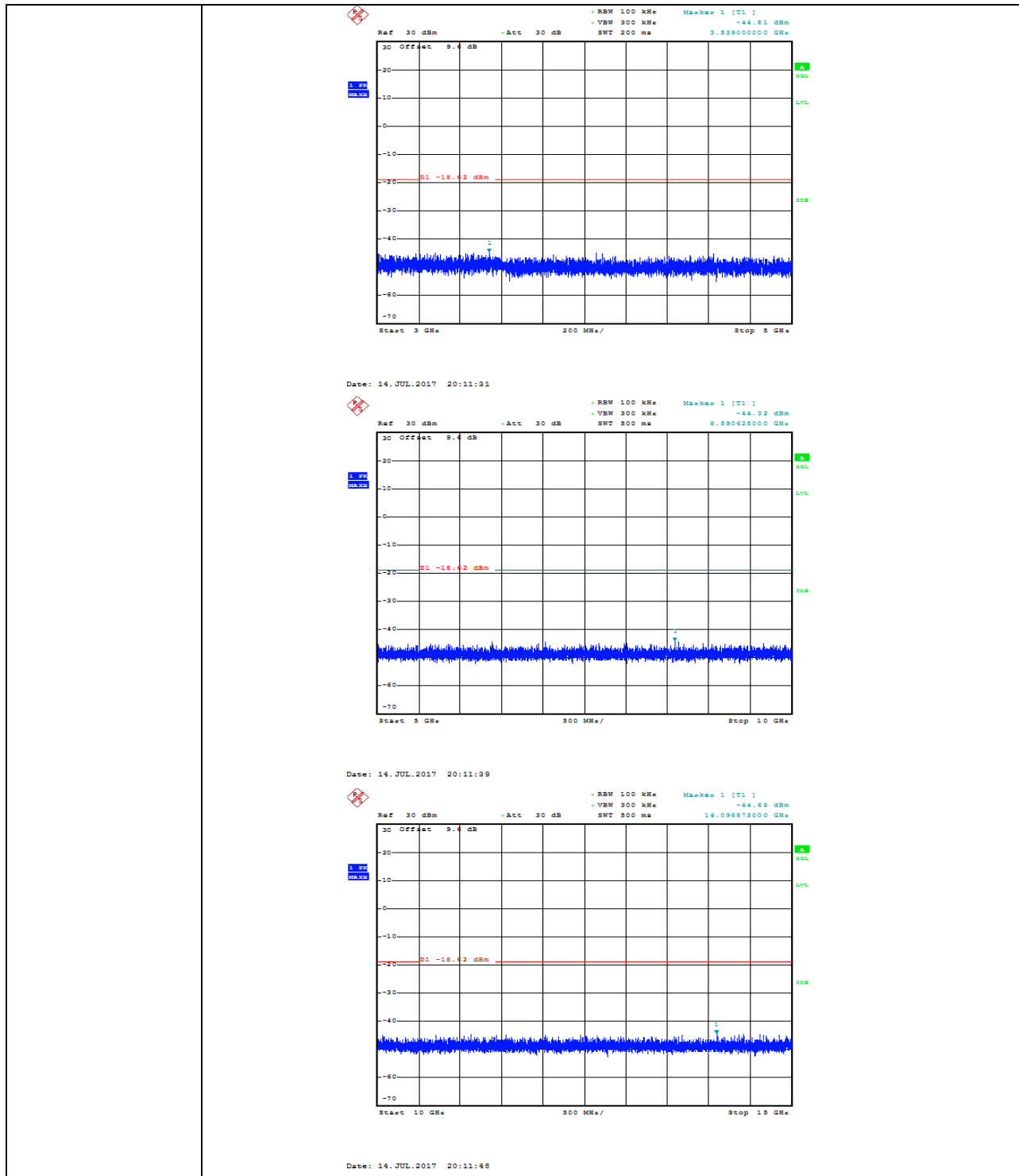
Conducted Spurious Emissions

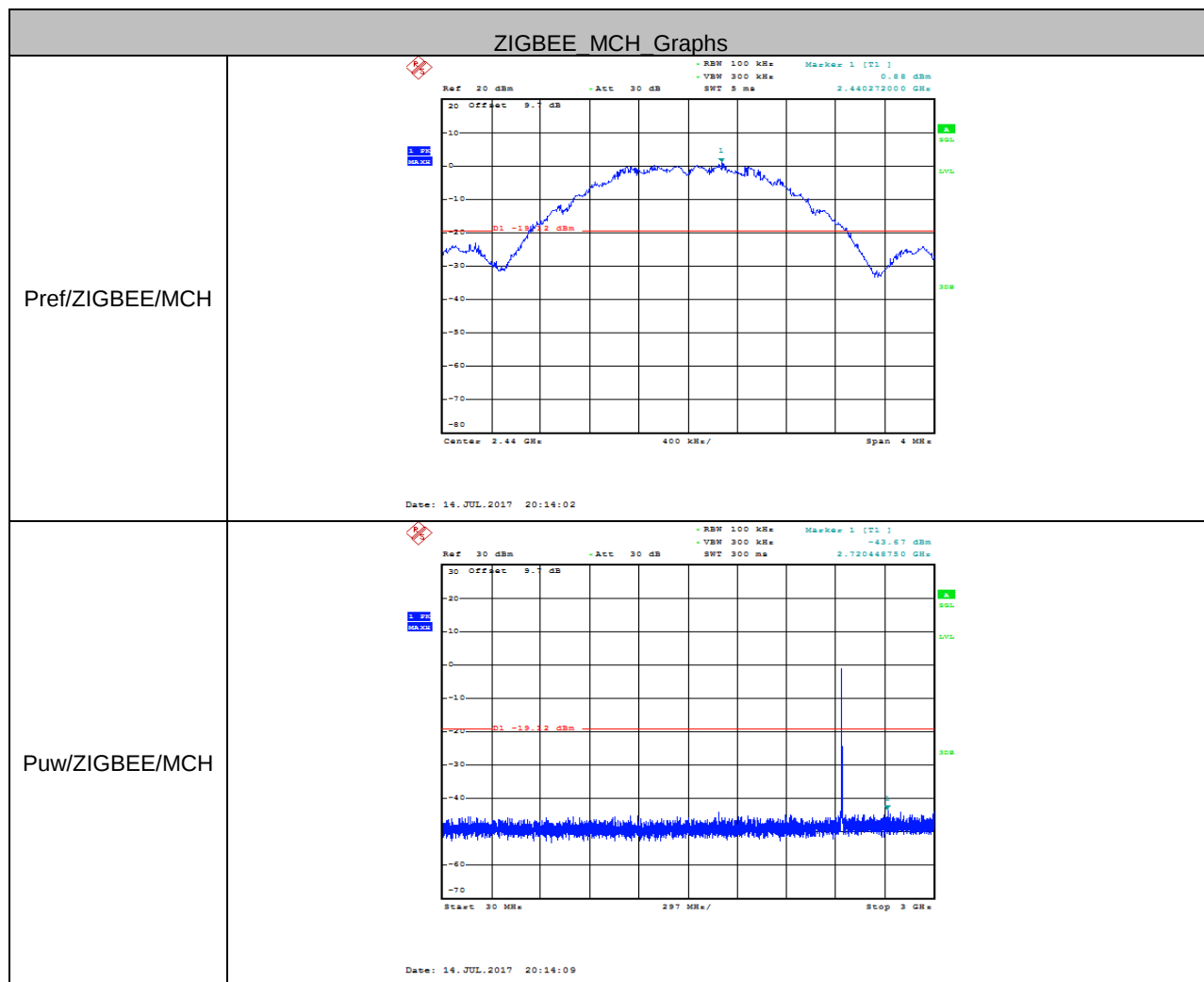
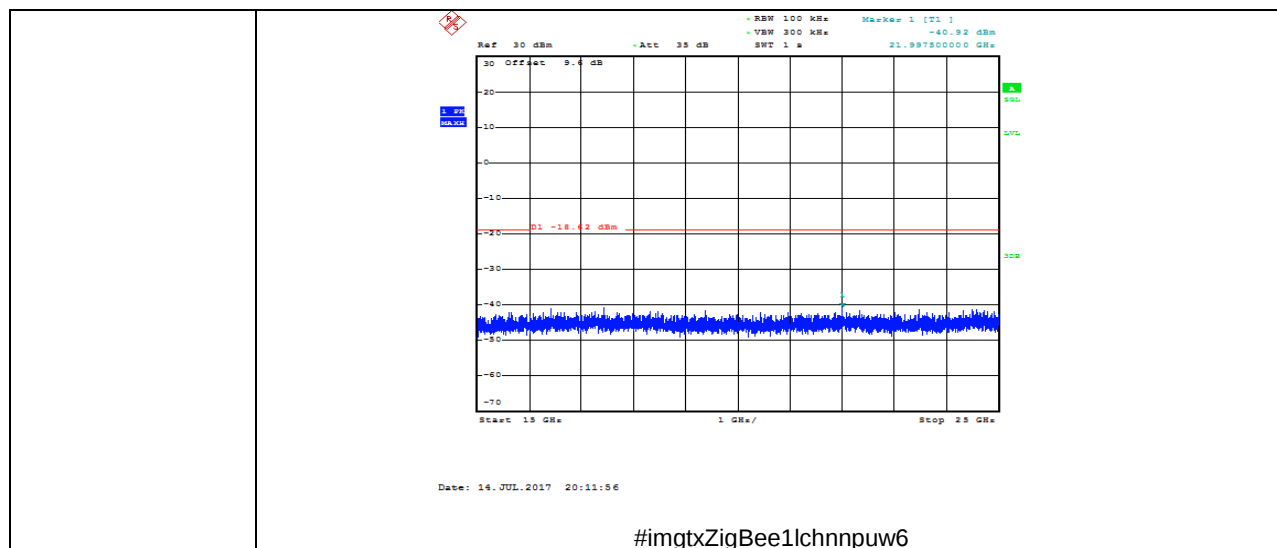
Result Table

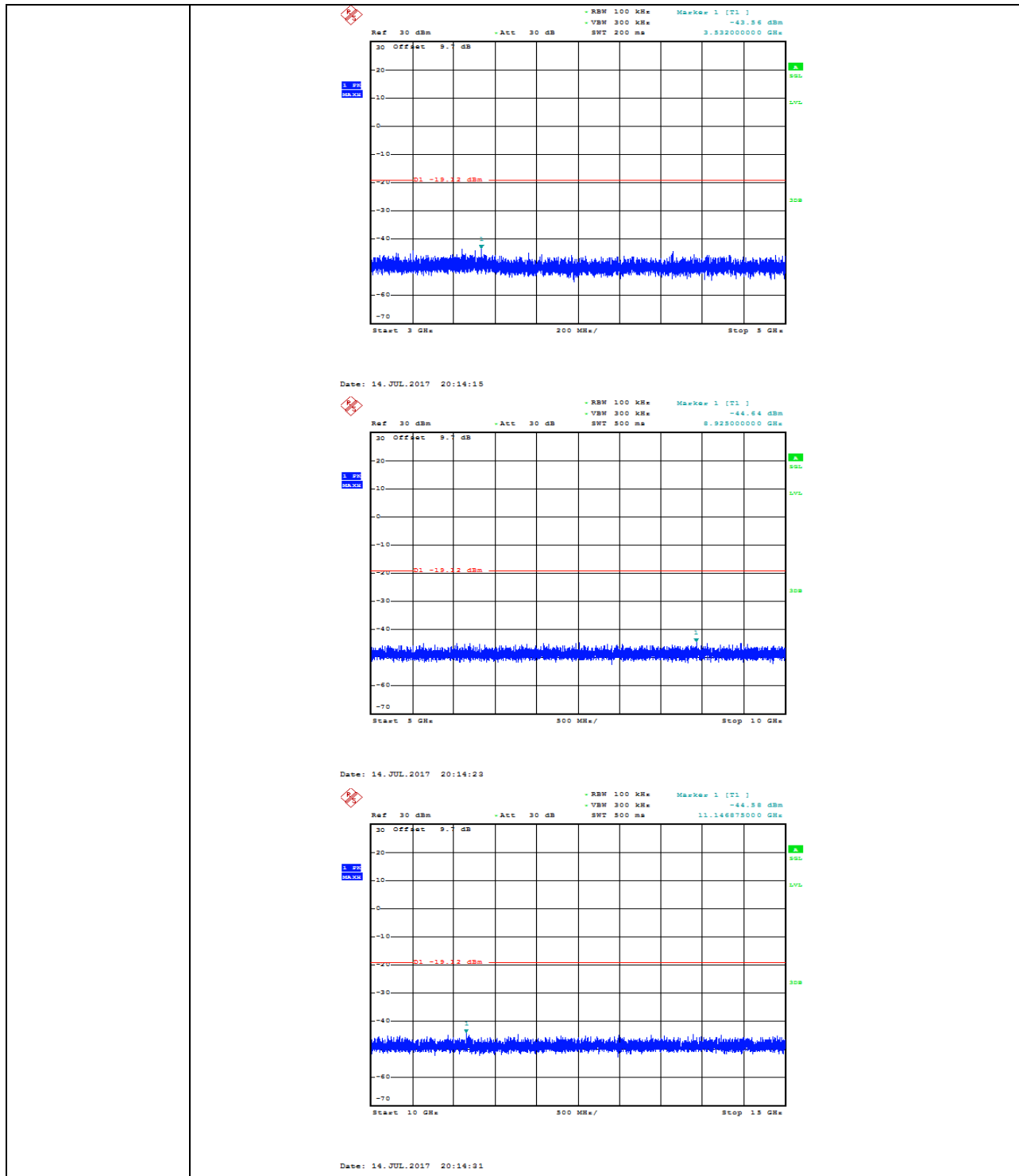
Mode	Channel	Pref [dBm]	Puw[dBm]	Verdict
ZIGBEE	LCH	1.38	<Limit	PASS
ZIGBEE	MCH	0.88	<Limit	PASS
ZIGBEE	HCH	0.22	<Limit	PASS

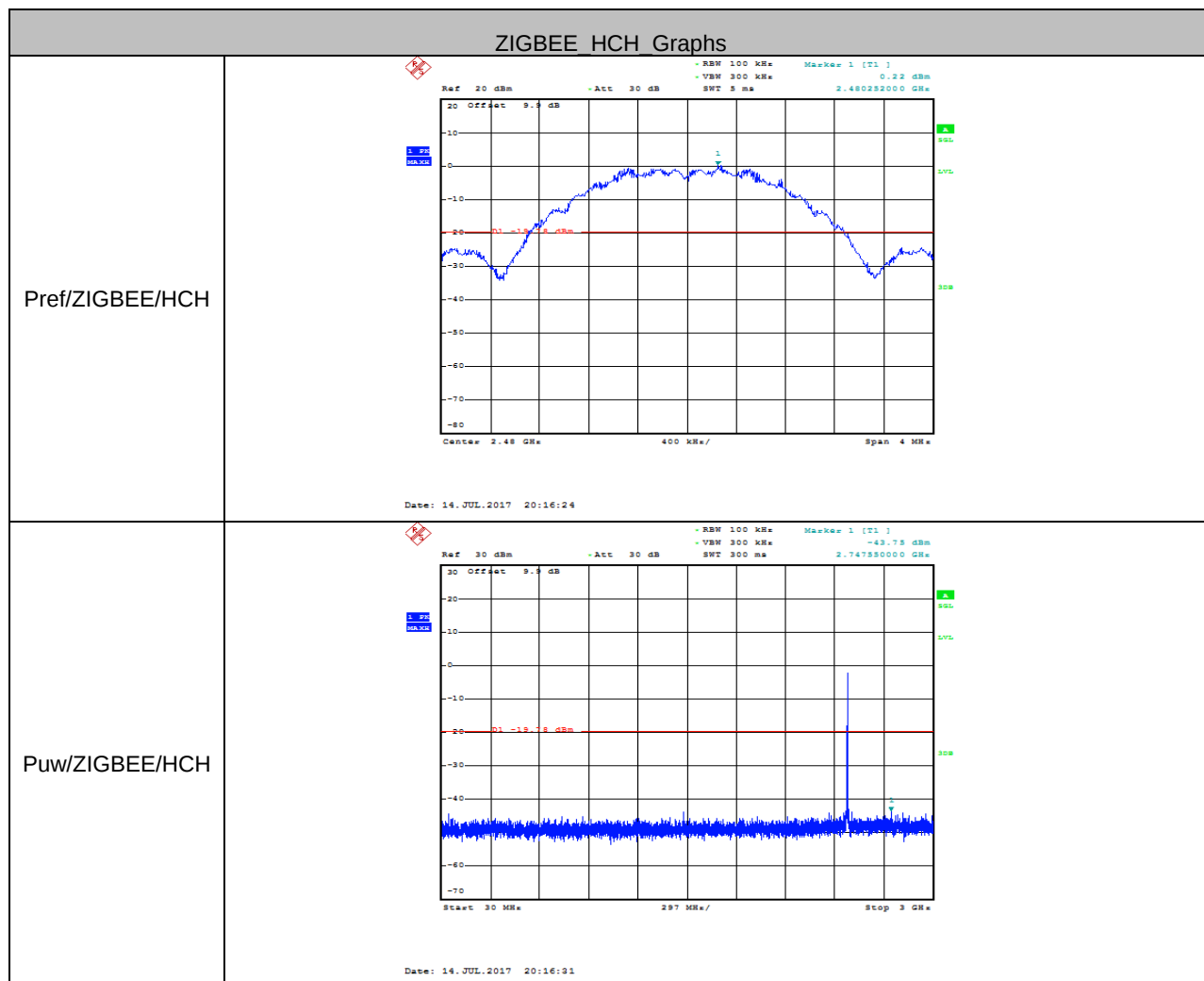
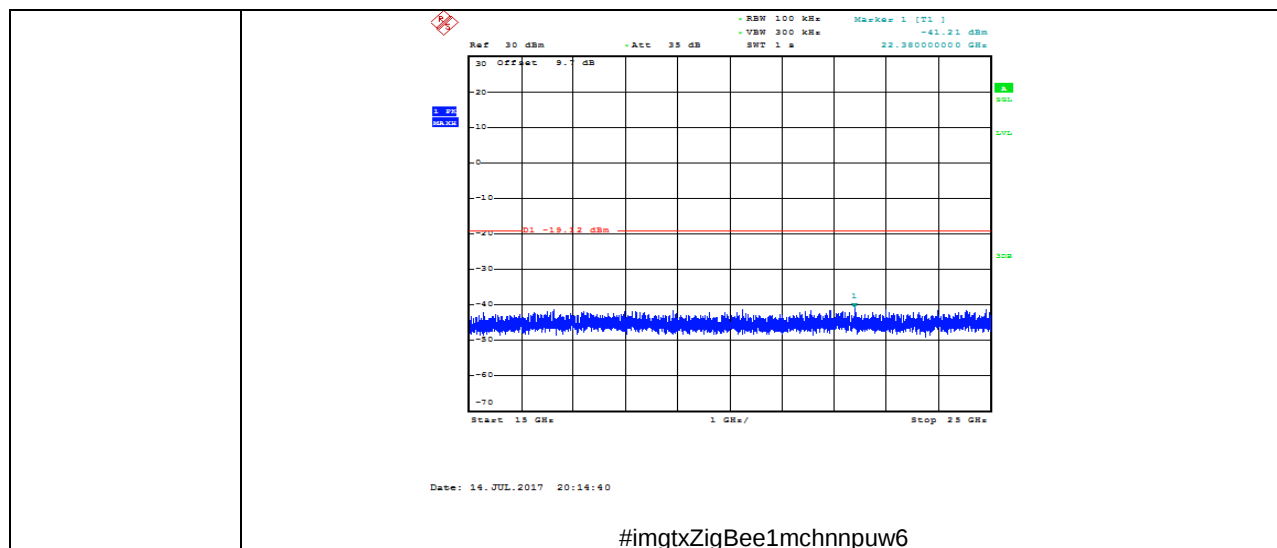
Test Graphs

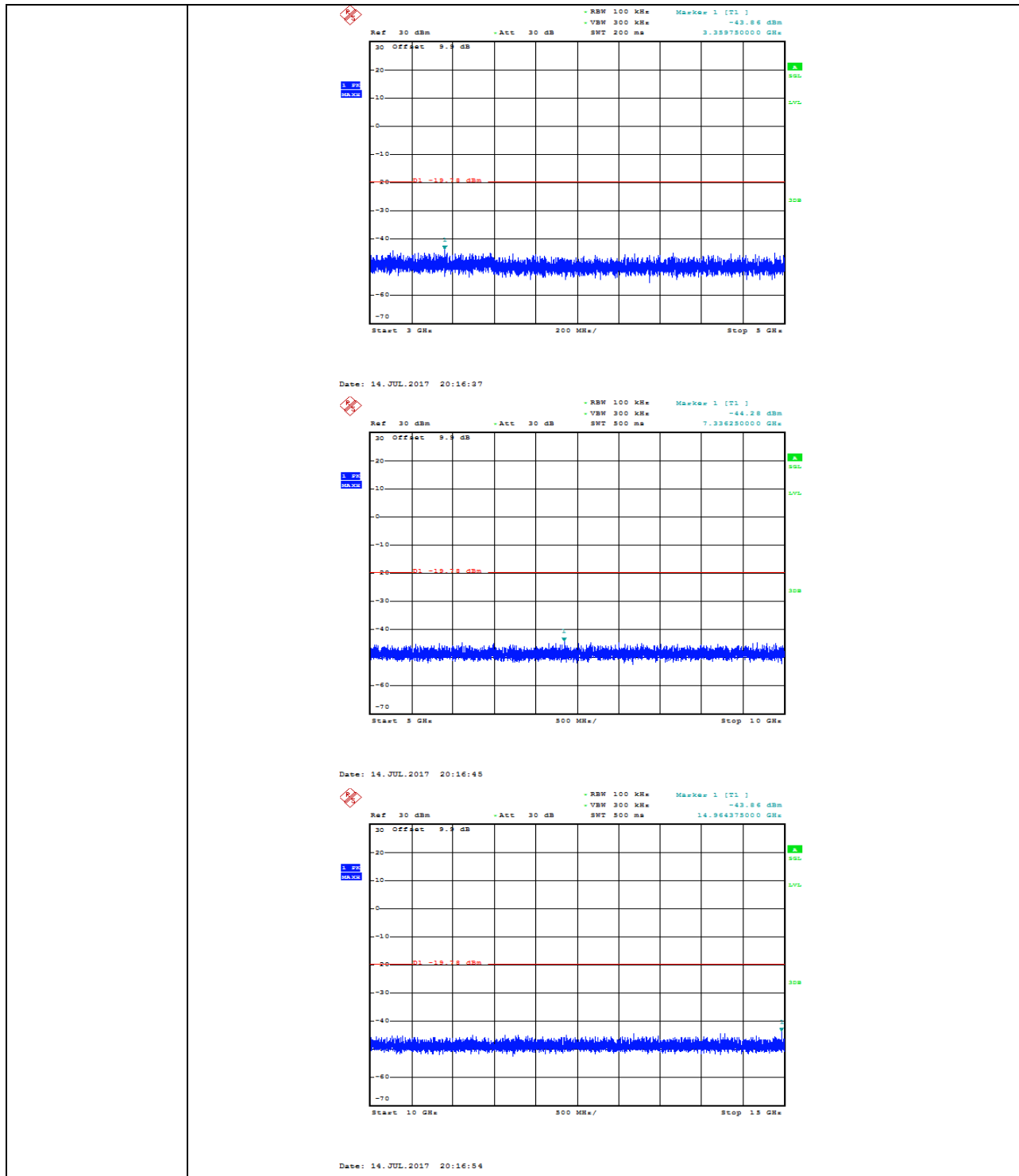


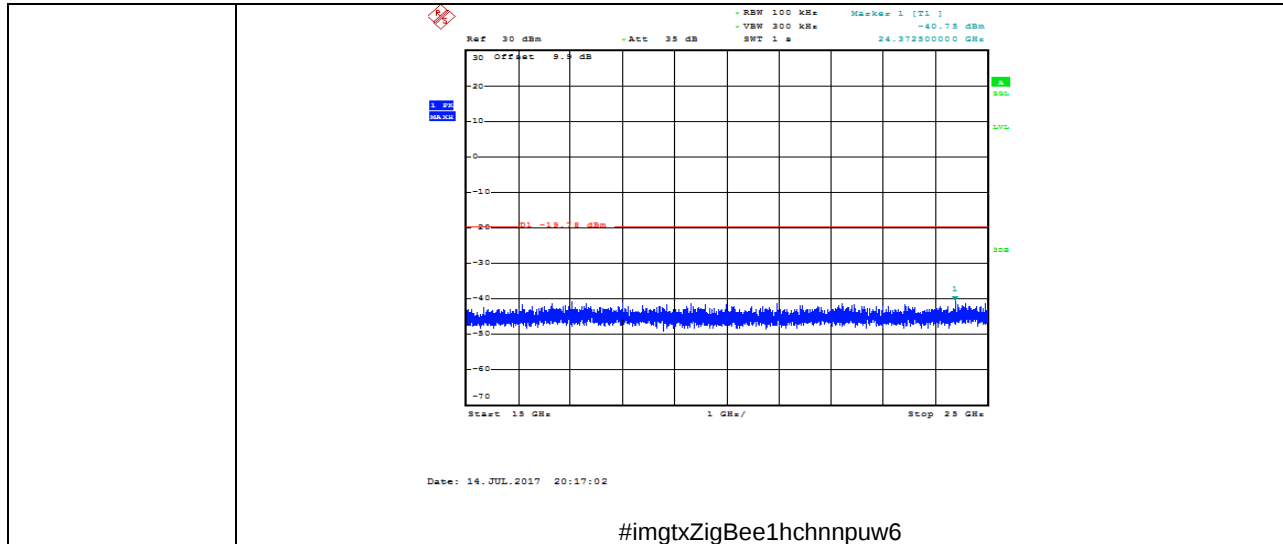












7. RADIATED TEST RESULTS

7.1. LIMITS AND PROCEDURE

LIMITS

Please refer to FCC §15.205 and §15.209

Please refer to IC RSS-GEN Clause 8.9 (Transmitter)

Radiation Disturbance Test Limit for FCC (Class B)(9KHz-1GHz)

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
960~1000	500	3

Note: 1) At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified provided: measurements are not made in the near field except where it can be shown that near field measurements are appropriate due to the characteristics of the device; and it can be demonstrated that the signal levels needed to be measured at the distance employed can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 meters unless it can be further demonstrated that measurements at a distance of 30 meters or less are impractical. 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 linear-distance for field strength measurements; inverse-linear-distance-squared for power density measurements).

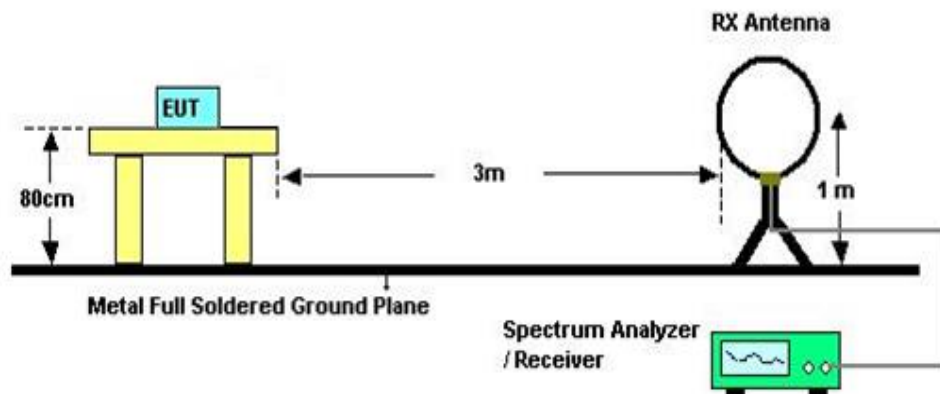
(2) At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two 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). This paragraph (f) shall not apply to Access BPL devices operating below 30 MHz.

Radiation Disturbance Test Limit for FCC (Above 1G)

Frequency (MHz)	dB(uV/m) (at 3 meters)	
	Peak	Average
Above 1000	74	54

TEST SETUP AND PROCEDURE

Below 30MHz

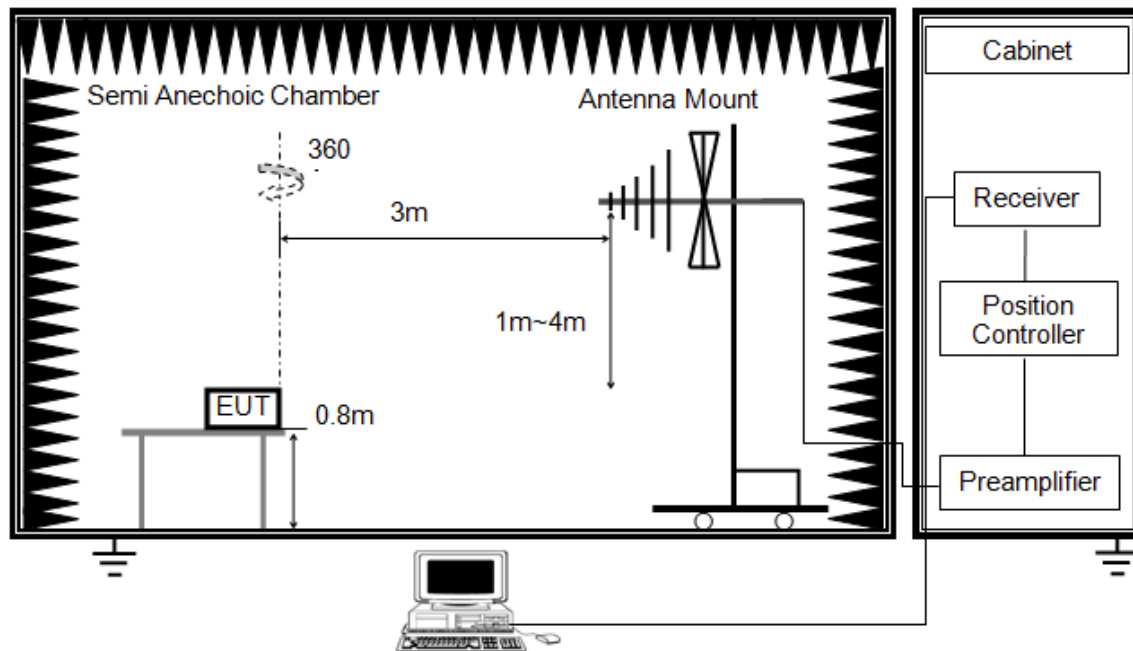


The setting of the spectrum analyser

RBW	200Hz (From 9kHz to 0.15MHz)/ 9KHz (From 0.15MHz to 30MHz)
VBW	200Hz (From 9kHz to 0.15MHz)/ 9KHz (From 0.15MHz to 30MHz)
Sweep	Auto
Detector	Peak/QP/ Average
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013
2. The EUT was arranged to its worst case and then turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
3. The EUT was placed on a turntable with 0.8 meter above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. For measurement below 1GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
7. For the actual test configuration, please refer to the related item in this test report (Photographs of the Test Configuration)

Below 1G and above 30MHz

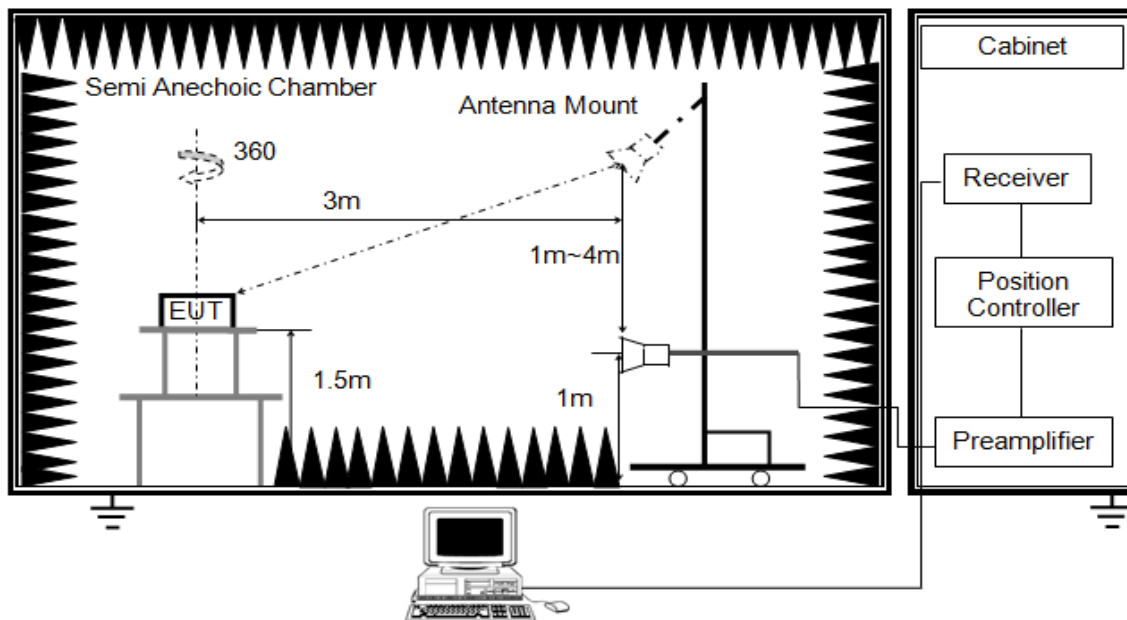


The setting of the spectrum analyser

RBW	120K
VBW	300K
Sweep	Auto
Detector	Peak/QP
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
3. The EUT was placed on a turntable with 0.8 meter above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. For measurement below 1GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
7. For the actual test configuration, please refer to the related Item in this test report (Photographs of the Test Configuration)

ABOVE 1G

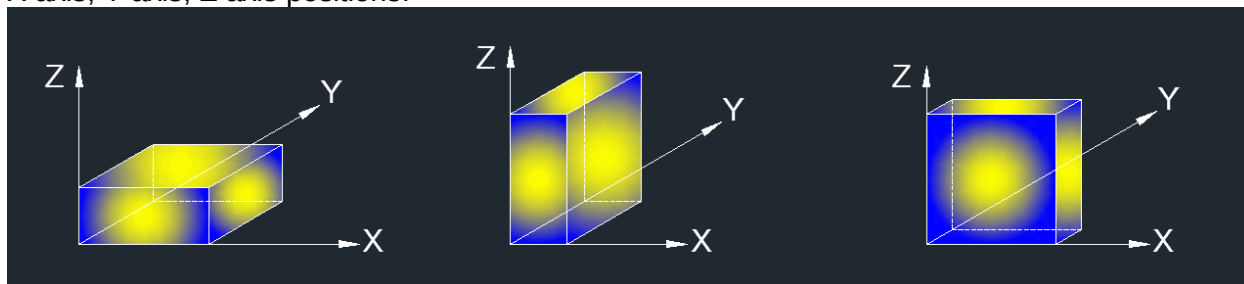


The setting of the spectrum analyser

RBW	1M
VBW	3M and 10Hz for AVG(Note 6)
Sweep	Auto
Detector	Peak
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
3. The EUT was placed on a turntable with 1.5m above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. For measurement above 1GHz, the emission measurement will be measured by the peak detector. This peak level, once corrected, must comply with the limit specified in Section 15.209.
6. For average power measurement, set the VBW to 10 Hz, while maintaining all of the other instrument settings, if the duty cycle of the EUT is less than 98%, the Duty Cycle Correction Factor shall be added to the measured emission levels. For the Duty Cycle and Correction Factor please refer to clause 6.1.ON TIME AND DUTY CYCLE.
8. For the actual test configuration, please refer to the related item in this test report (Photographs of the Test Configuration)

X axis, Y axis, Z axis positions:



Note 1: For all radiated test about antenna 1, EUT in each of three orthogonal axis emissions had been tested, but only the worst case (Z axis) data recorded in the report.

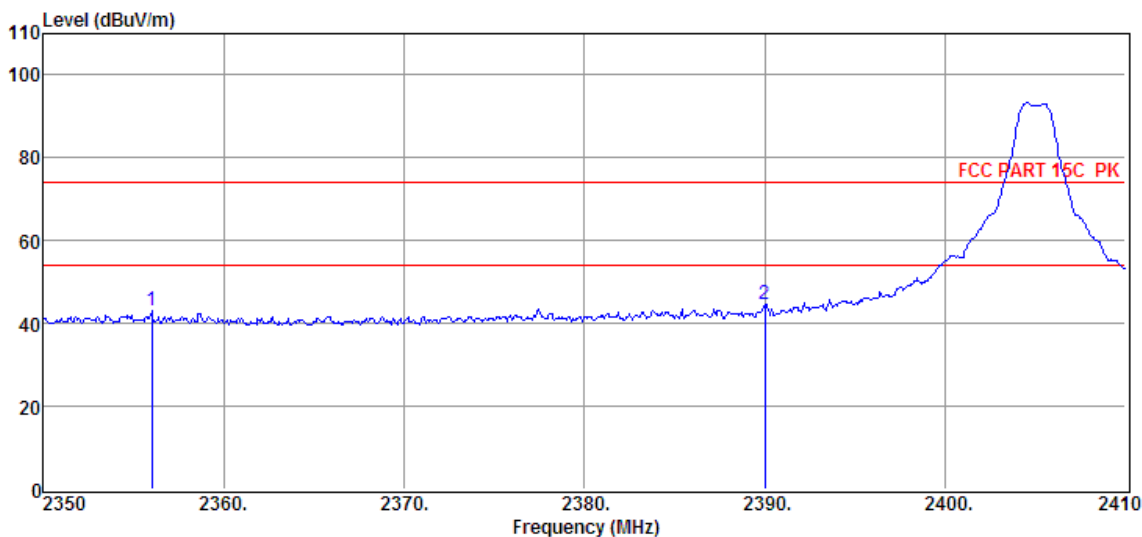
Note 2: For all radiated test about antenna 2, antenna in each of three orthogonal axis emissions had been tested, but only the worst case (Z axis) data recorded in the report.

Note 2: For all radiated test about antenna 3, antenna in each of three orthogonal axis emissions had been tested, but only the worst case (Z axis) data recorded in the report.

7.2. RESTRICTED BANDEDGE

RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)

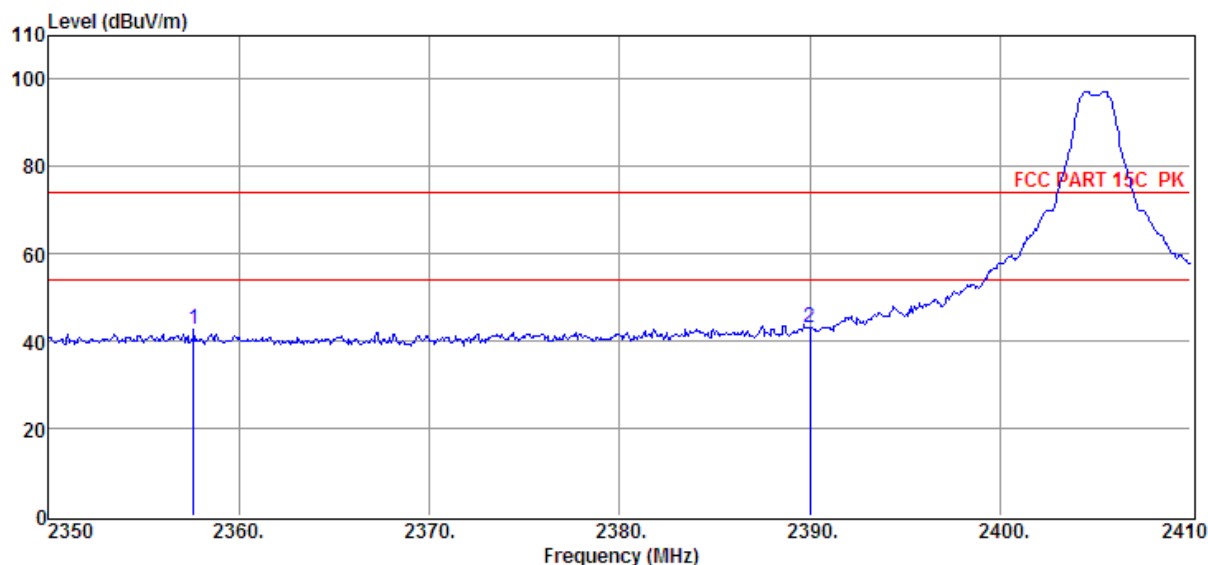
EUT:	FlexNode Line Powered Radio	Polarization :	Horizontal
Test Mode:	Low Chanel - Antenna 1		



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBUV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	2356.00	36.73	29.64	29.34	5.96	42.99	74.00	-31.01	Peak
2	2390.00	38.13	29.78	29.42	6.03	44.52	74.00	-29.48	Peak

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

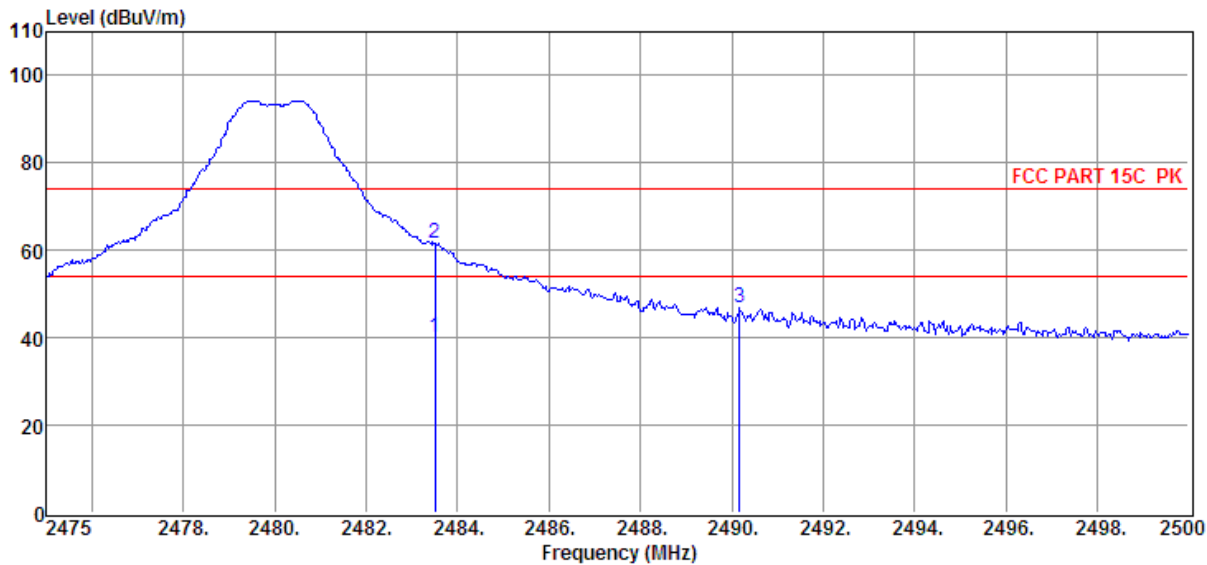
EUT:	FlexNode Line Powered Radio	Polarization :	Vertical
Test Mode:	Low Chanel - Antenna 1		



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	2357.62	36.32	29.65	29.34	5.96	42.59	74.00	-31.41	Peak
2	2390.00	36.78	29.78	29.42	6.03	43.17	74.00	-30.83	Peak

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

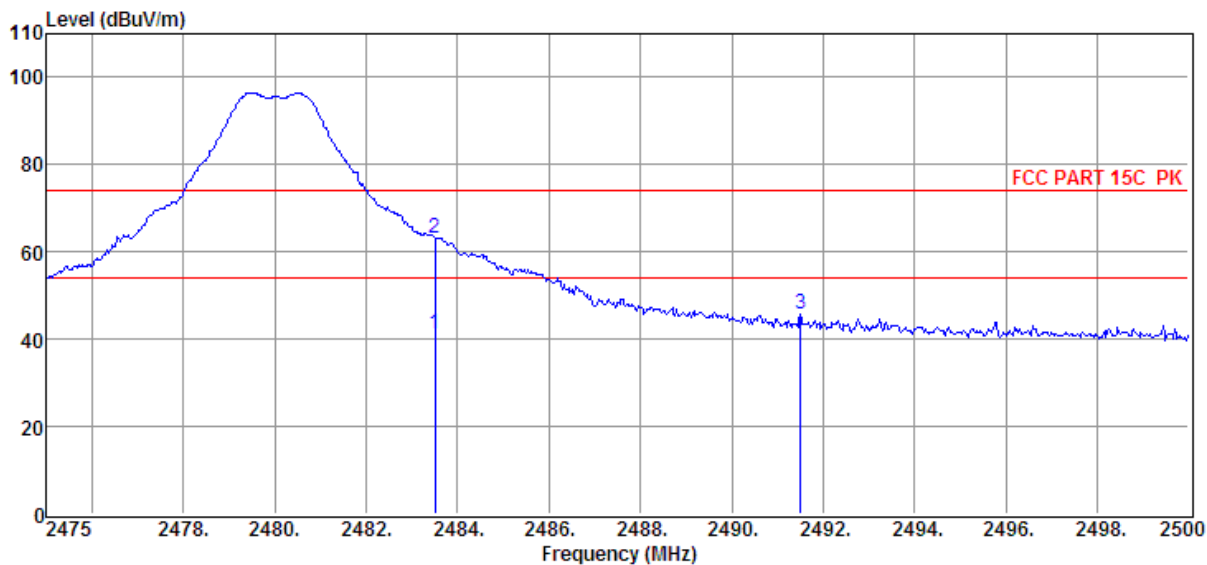
EUT:	FlexNode Line Powered Radio	Polarization :	Horizontal
Test Mode:	High Chanel - Antenna 1		



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	2483.50	33.64	30.14	29.71	6.13	40.20	54.00	-13.80	Average
2	2483.50	54.98	30.14	29.71	6.13	61.54	74.00	-12.46	Peak
3	2490.18	40.28	30.16	29.71	6.17	46.90	74.00	-27.10	Peak

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

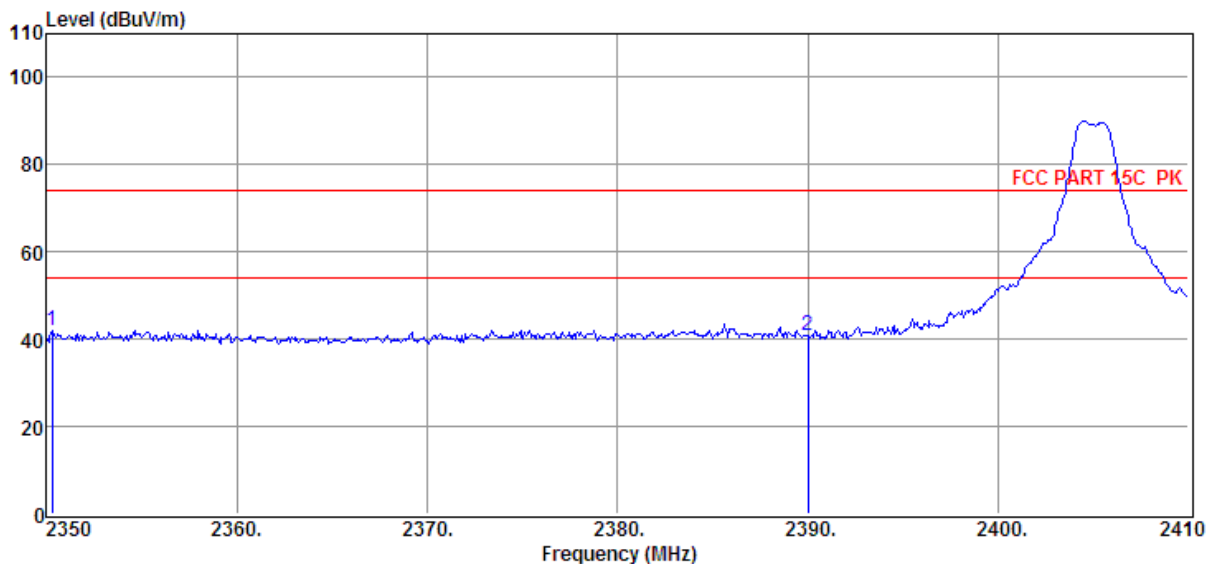
EUT:	FlexNode Line Powered Radio	Polarization :	Vertical
Test Mode:	High Chanel - Antenna 1		



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	2483.50	34.64	30.14	29.71	6.13	41.20	54.00	-12.80	Average
2	2483.50	56.62	30.14	29.71	6.13	63.18	74.00	-10.82	Peak
3	2491.50	39.28	30.17	29.73	6.17	45.89	74.00	-28.11	Peak

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

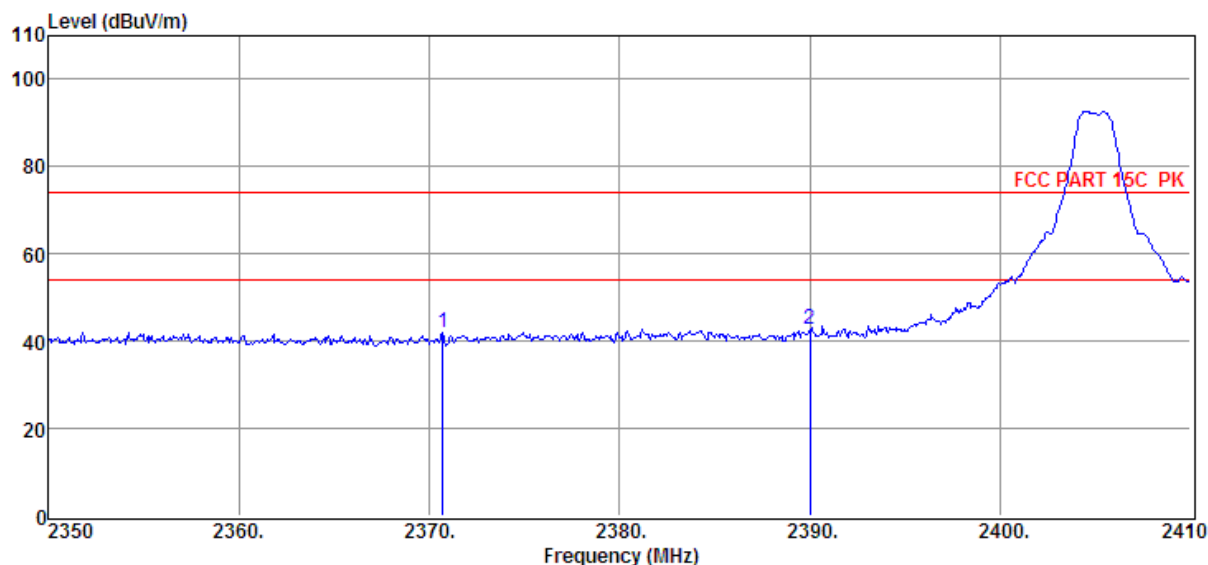
EUT:	FlexNode Line Powered Radio	Polarization :	Horizontal
Test Mode:	Low Chanel - Antenna 2		



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	2350.30	35.73	29.62	29.33	5.96	41.98	74.00	-32.02	Peak
2	2390.00	34.52	29.78	29.42	6.03	40.91	74.00	-33.09	Peak

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

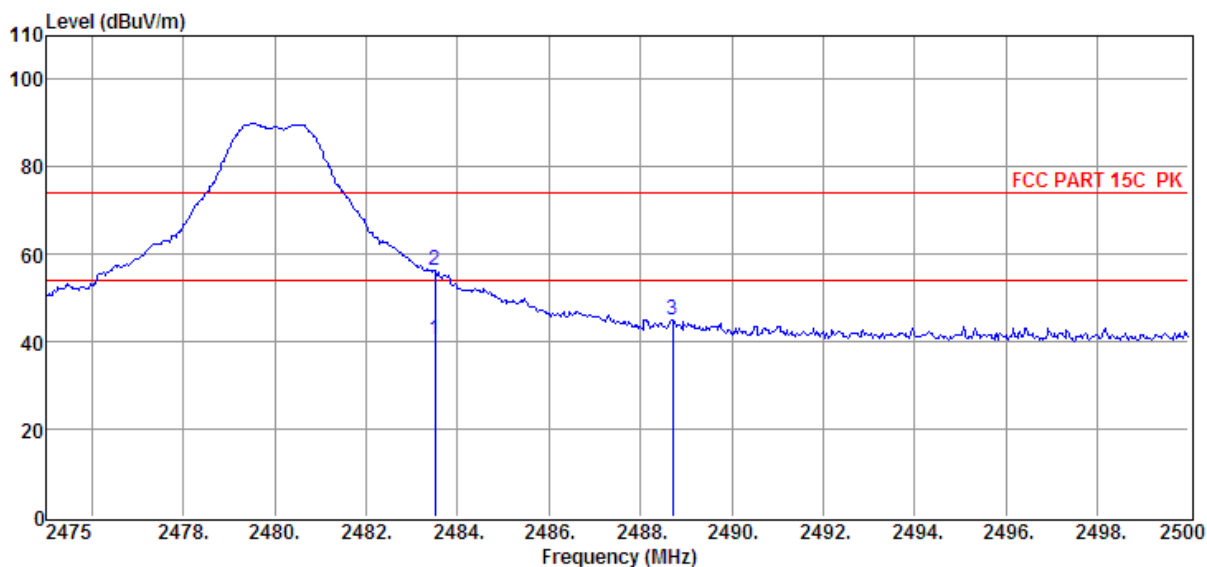
EUT:	FlexNode Line Powered Radio	Polarization :	Vertical
Test Mode:	Low Chanel - Antenna 2		



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	2370.70	35.71	29.70	29.37	6.01	42.05	74.00	-31.95	Peak
2	2390.00	36.16	29.78	29.42	6.03	42.55	74.00	-31.45	Peak

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

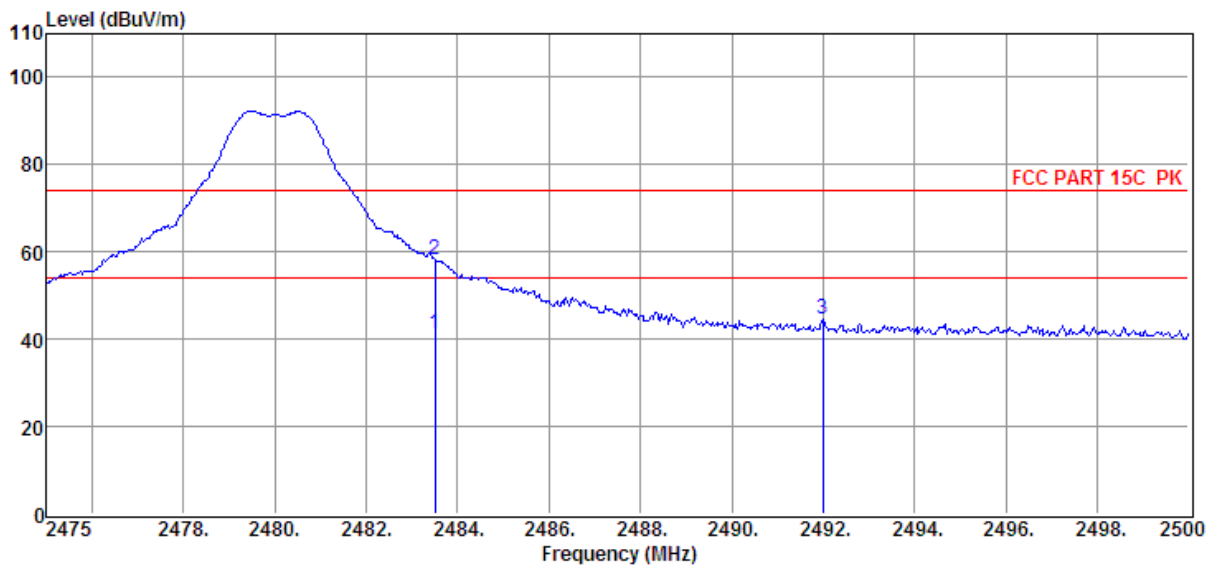
EUT:	FlexNode Line Powered Radio	Polarization :	Horizontal
Test Mode:	High Chanel - Antenna 2		



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	2483.50	34.05	30.14	29.71	6.13	40.61	54.00	-13.39	Average
2	2483.50	49.93	30.14	29.71	6.13	56.49	74.00	-17.51	Peak
3	2488.70	38.50	30.16	29.71	6.13	45.08	74.00	-28.92	Peak

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

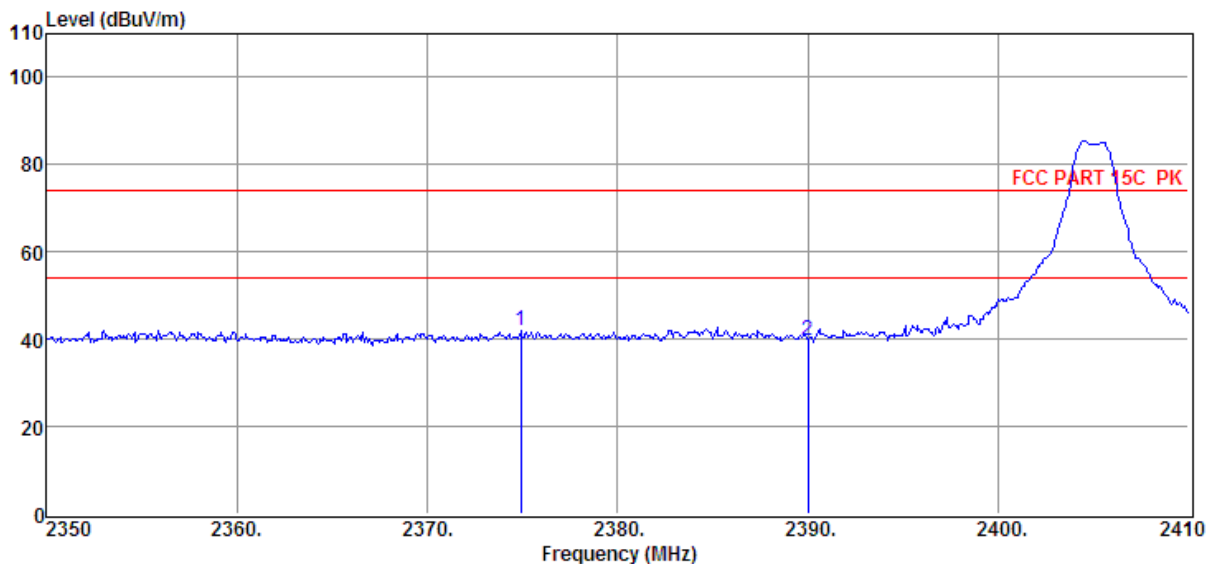
EUT:	FlexNode Line Powered Radio	Polarization :	Vertical
Test Mode:	High Chanel - Antenna 2		



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	2483.50	34.73	30.14	29.71	6.13	41.29	54.00	-12.71	Average
2	2483.50	51.77	30.14	29.71	6.13	58.33	74.00	-15.67	Peak
3	2492.00	37.82	30.17	29.73	6.17	44.43	74.00	-29.57	Peak

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

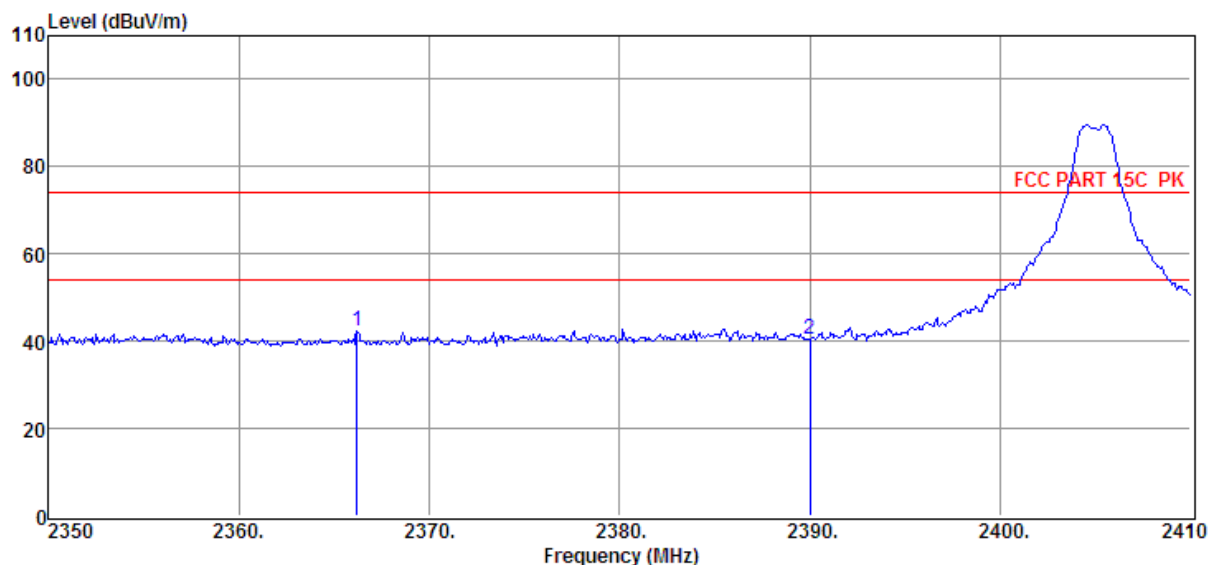
EUT:	FlexNode Line Powered Radio	Polarization :	Horizontal
Test Mode:	Low Chanel - Antenna 3		



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	2374.90	35.57	29.72	29.39	6.01	41.91	74.00	-32.09	Peak
2	2390.00	33.48	29.78	29.42	6.03	39.87	74.00	-34.13	Peak

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

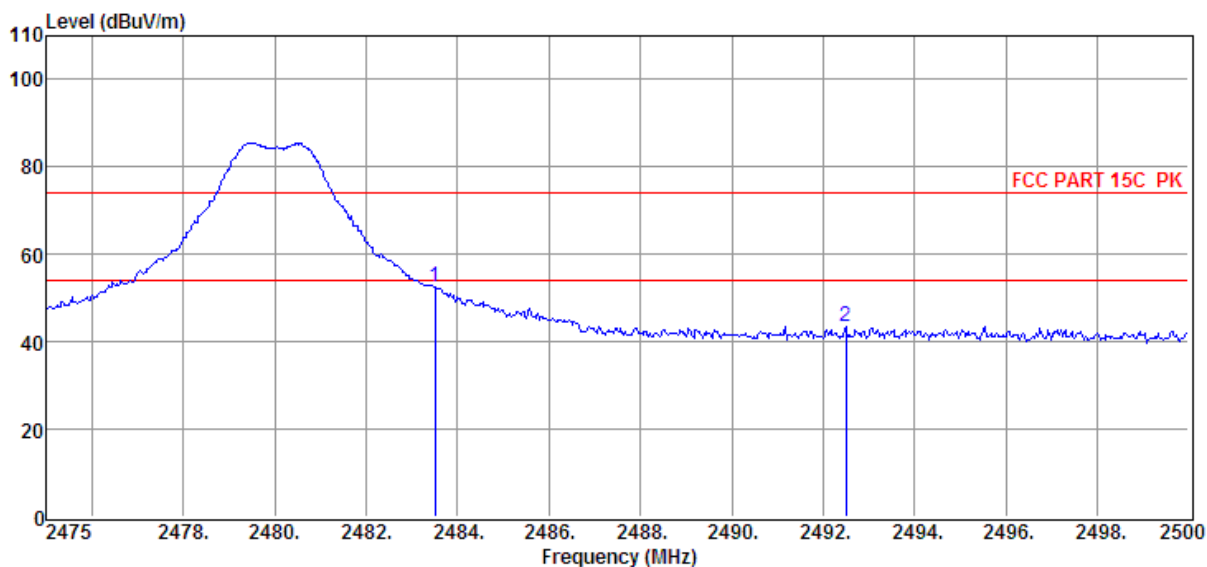
EUT:	FlexNode Line Powered Radio	Polarization :	Vertical
Test Mode:	Low Chanel - Antenna 3		



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	2366.20	35.99	29.68	29.37	6.01	42.31	74.00	-31.69	Peak
2	2390.00	33.97	29.78	29.42	6.03	40.36	74.00	-33.64	Peak

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

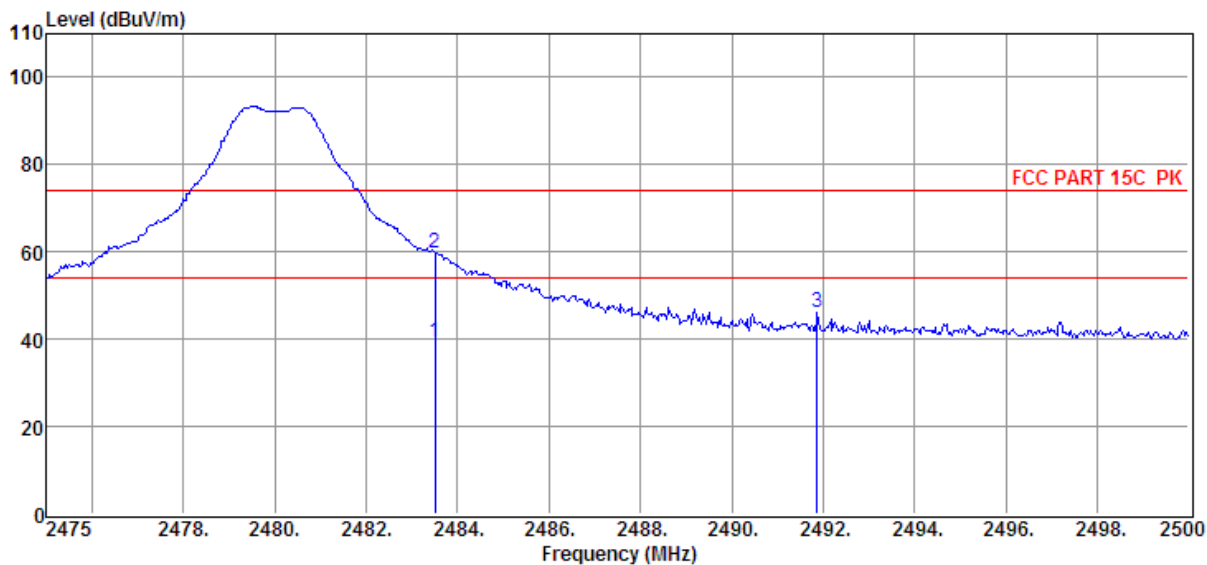
EUT:	FlexNode Line Powered Radio	Polarization :	Horizontal
Test Mode:	High Chanel - Antenna 3		



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBUV/m)	Limit Line (dBUV/m)	Over Limit (dB)	Detector
1	2483.50	46.04	30.14	29.71	6.13	52.60	74.00	-21.40	Peak
2	2492.50	36.96	30.17	29.73	6.17	43.57	74.00	-30.43	Peak

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

EUT:	FlexNode Line Powered Radio	Polarization :	Vertical
Test Mode:	High Chanel - Antenna 3		



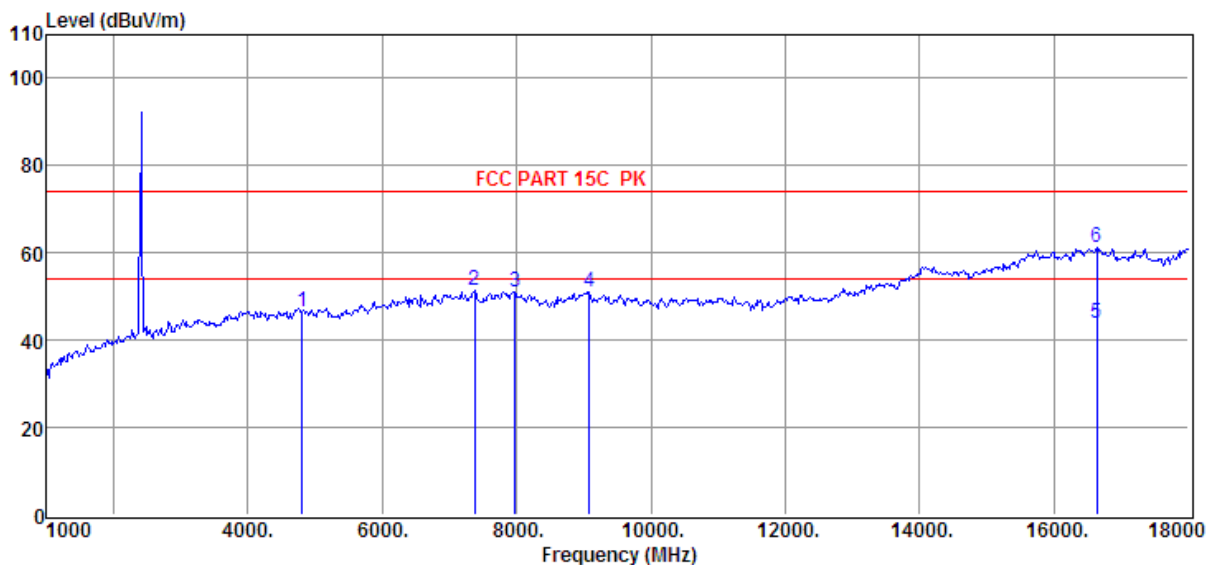
Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	2483.50	32.58	30.14	29.71	6.13	39.14	54.00	-14.86	Average
2	2483.50	53.13	30.14	29.71	6.13	59.69	74.00	-14.31	Peak
3	2491.88	39.37	30.17	29.73	6.17	45.98	74.00	-28.02	Peak

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

7.3. SPURIOUS EMISSIONS (1~25GHz)

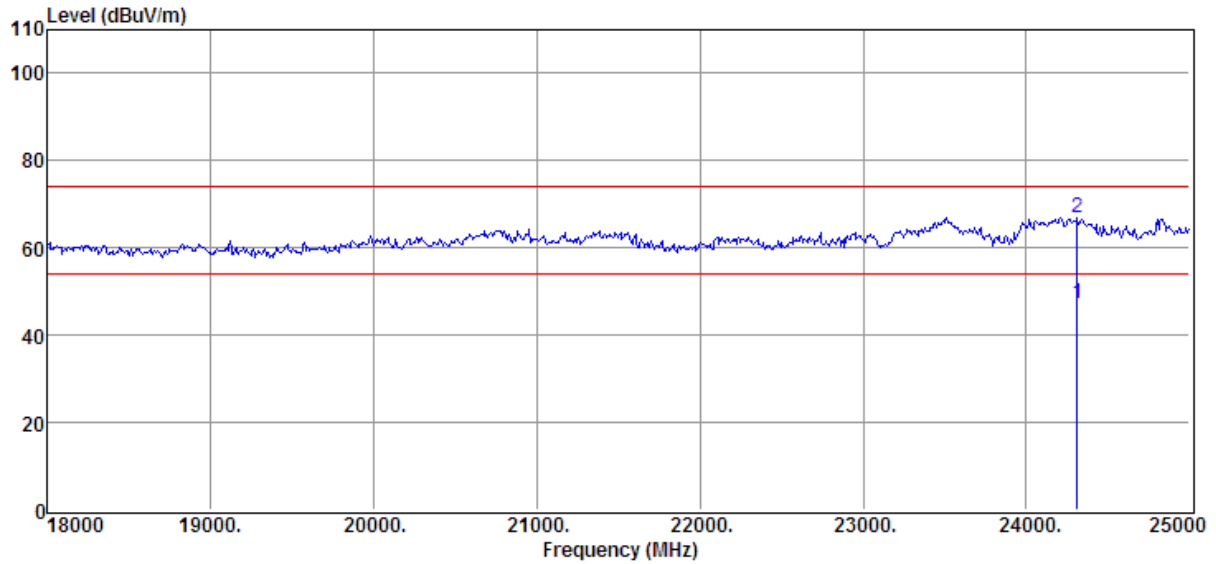
HARMONICS AND SPURIOUS EMISSIONS

EUT:	FlexNode Line Powered Radio	Polarization :	Horizontal
Test Mode:	Low Chanel - Antenna 1		



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	4810.00	33.44	33.74	29.32	8.46	46.32	74.00	-27.68	Peak
2	7375.00	34.75	36.50	30.65	10.75	51.35	74.00	-22.65	Peak
3	7970.00	34.52	36.69	31.12	11.12	51.21	74.00	-22.79	Peak
4	9075.00	34.28	37.33	32.35	11.89	51.15	74.00	-22.85	Peak
5	16640.00	17.99	44.47	36.28	17.74	43.92	54.00	-10.08	Average
6	16640.00	35.41	44.47	36.28	17.74	61.34	74.00	-12.66	Peak

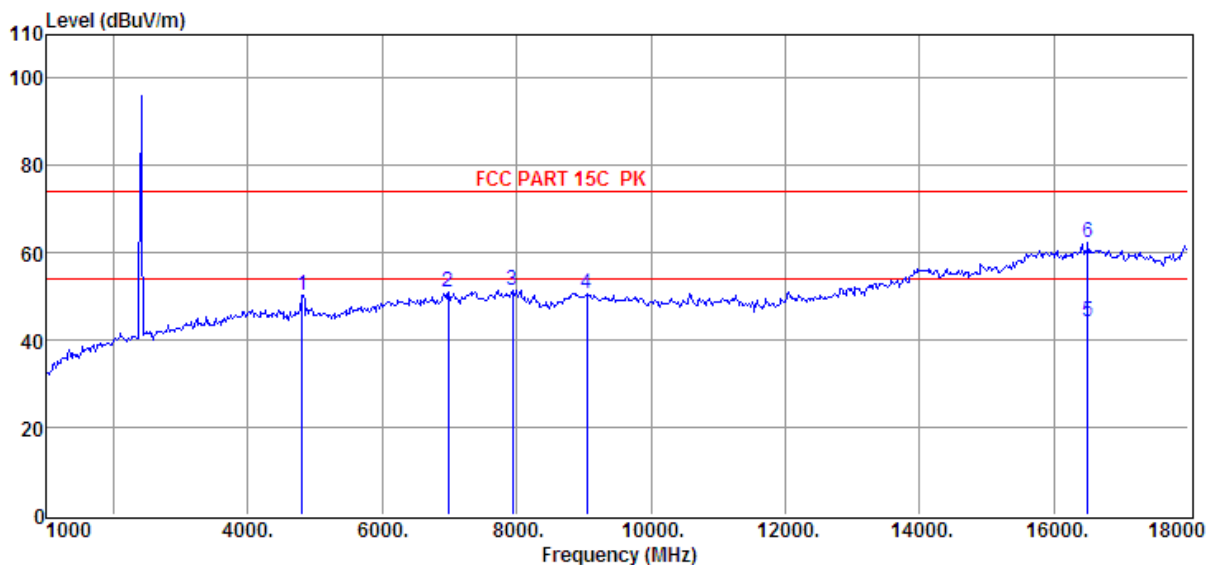
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	24314.00	20.65	44.70	37.71	19.72	47.36	54.00	-6.64	Average
2	24314.00	40.26	44.70	37.71	19.72	66.97	74.00	-7.03	Peak

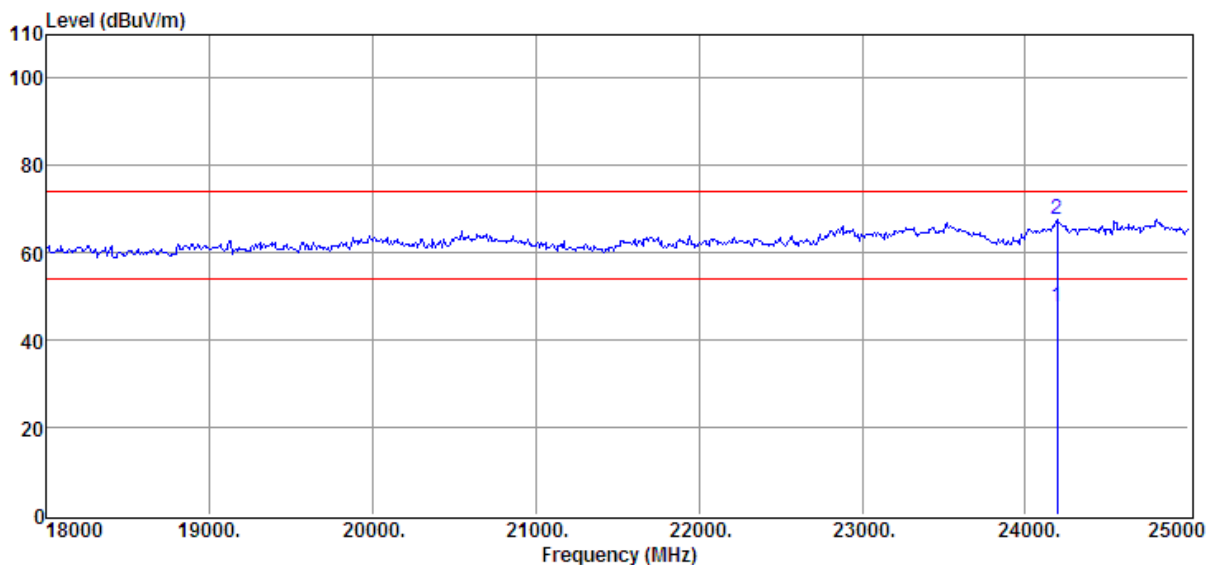
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

EUT:	FlexNode Line Powered Radio	Polarization :	Vertical
Test Mode:	Low Chanel - Antenna 1		



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	4810.00	37.39	33.74	29.32	8.46	50.27	74.00	-23.73	Peak
2	6984.00	34.78	36.19	30.38	10.40	50.99	74.00	-23.01	Peak
3	7936.00	34.85	36.69	31.11	11.10	51.53	74.00	-22.47	Peak
4	9041.00	33.70	37.41	32.34	11.87	50.64	74.00	-23.36	Peak
5	16504.00	18.15	44.69	36.06	17.51	44.29	54.00	-9.71	Average
6	16504.00	36.27	44.69	36.06	17.51	62.41	74.00	-11.59	Peak

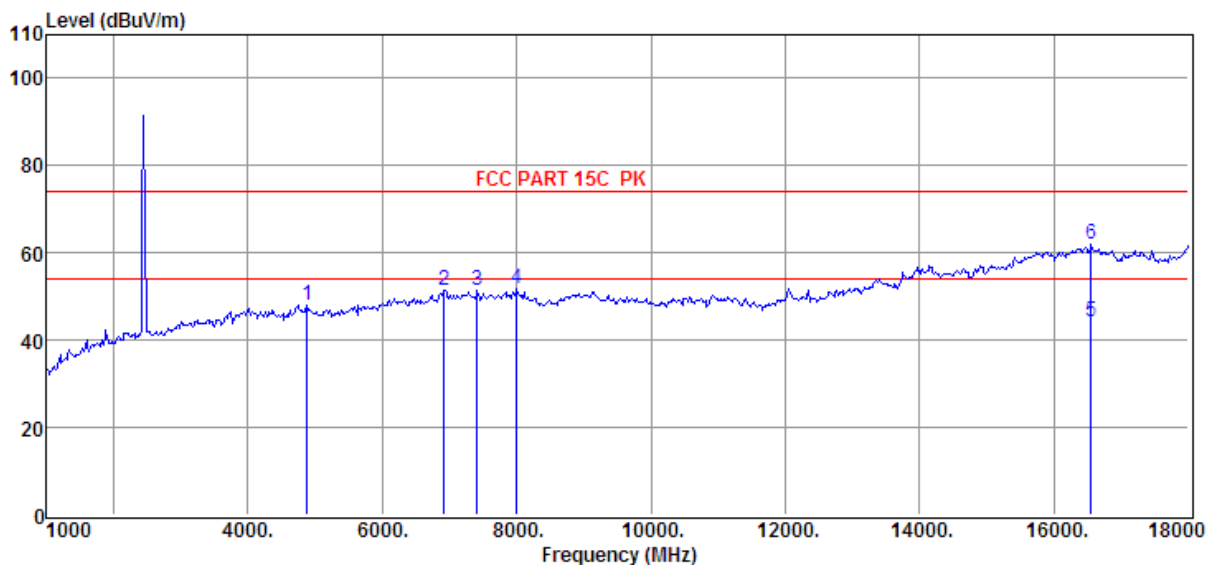
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	24195.00	20.78	44.70	37.71	19.72	47.49	54.00	-6.51	Average
2	24195.00	40.94	44.70	37.71	19.72	67.65	74.00	-6.35	Peak

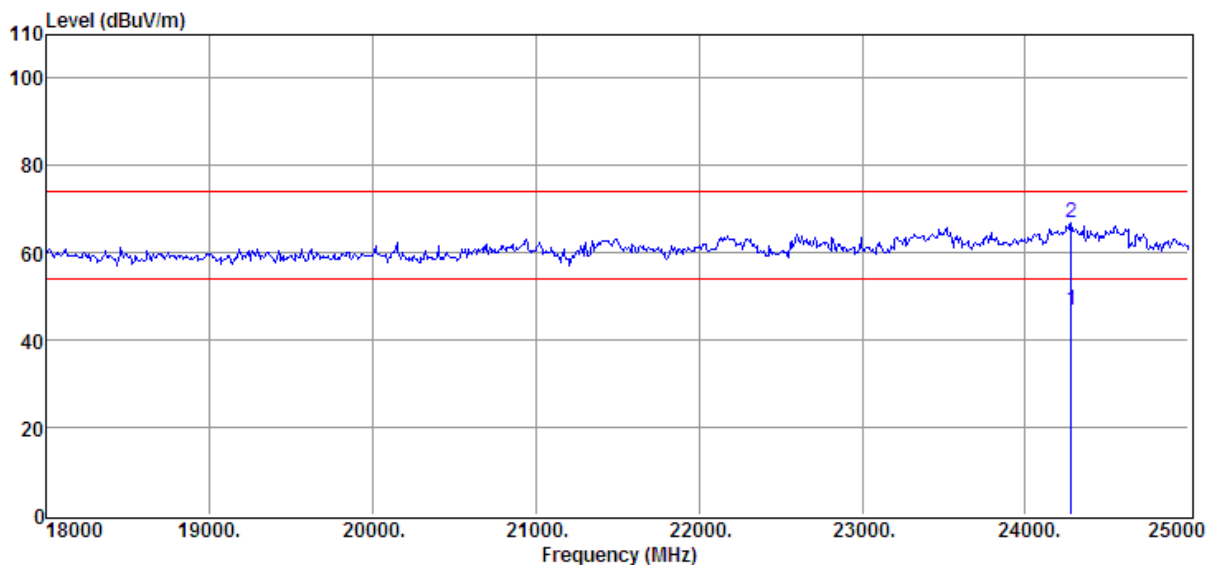
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

EUT:	FlexNode Line Powered Radio	Polarization :	Horizontal
Test Mode:	Middle Channel - Antenna 1		



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	4880.00	34.26	33.72	29.33	8.56	47.21	74.00	-26.79	Peak
2	7256.00	34.59	36.41	30.54	10.65	51.11	74.00	-22.89	Peak
3	7936.00	35.34	36.69	31.11	11.10	52.02	74.00	-21.98	Peak
4	8871.00	34.30	36.94	32.22	11.77	50.79	74.00	-23.21	Peak
5	16606.00	18.00	44.53	36.21	17.71	44.03	54.00	-9.97	Average
6	16606.00	35.21	44.53	36.21	17.71	61.24	74.00	-12.76	Peak

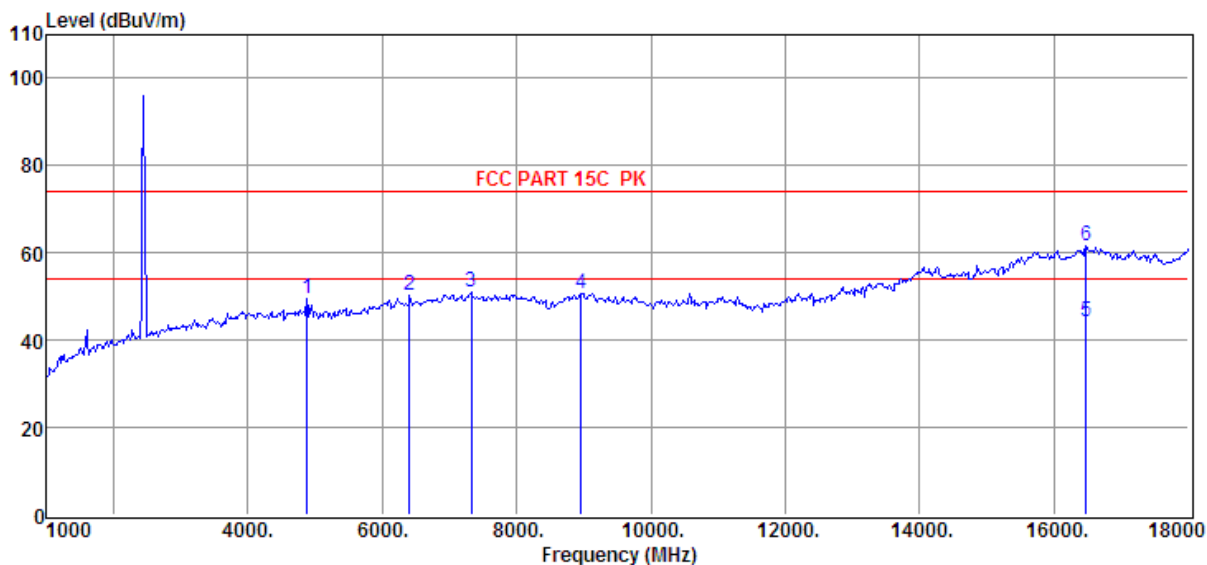
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	24279.00	20.30	44.70	37.71	19.72	47.01	54.00	-6.99	Average
2	24279.00	40.16	44.70	37.71	19.72	66.87	74.00	-7.13	Peak

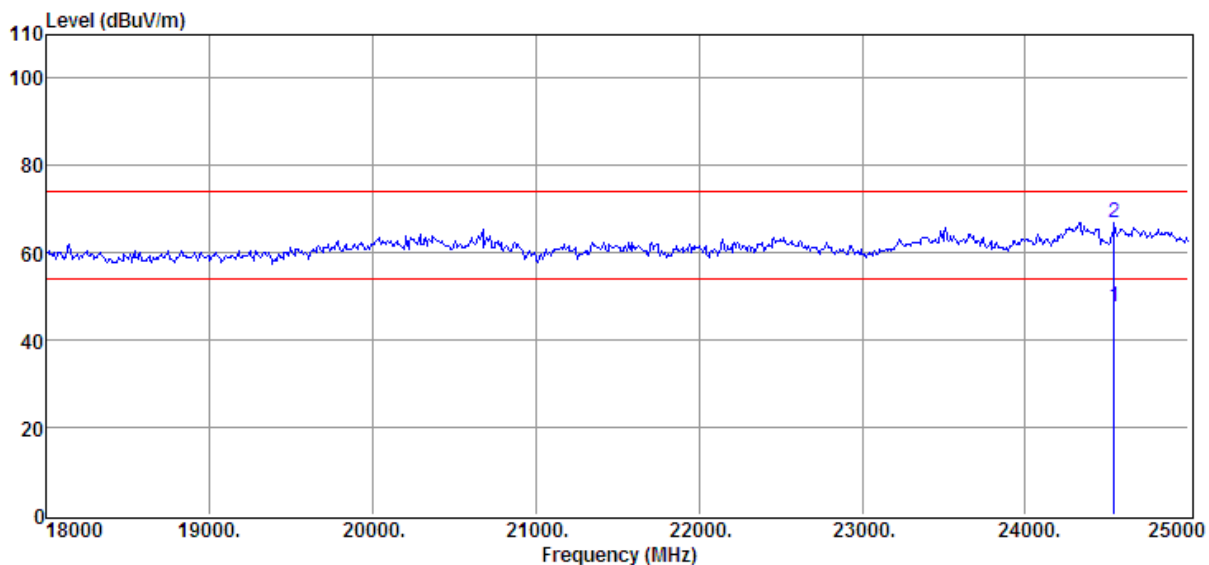
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

EUT:	FlexNode Line Powered Radio	Polarization :	Vertical
Test Mode:	Middle Channel - Antenna 1		



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	4880.00	36.53	33.72	29.33	8.56	49.48	74.00	-24.52	Peak
2	6406.00	34.28	35.65	29.66	9.88	50.15	74.00	-23.85	Peak
3	7324.00	34.47	36.46	30.59	10.71	51.05	74.00	-22.95	Peak
4	8956.00	33.84	37.31	32.28	11.79	50.66	74.00	-23.34	Peak
5	16470.00	18.07	44.65	35.99	17.46	44.19	54.00	-9.81	Average
6	16470.00	35.43	44.65	35.99	17.46	61.55	74.00	-12.45	Peak

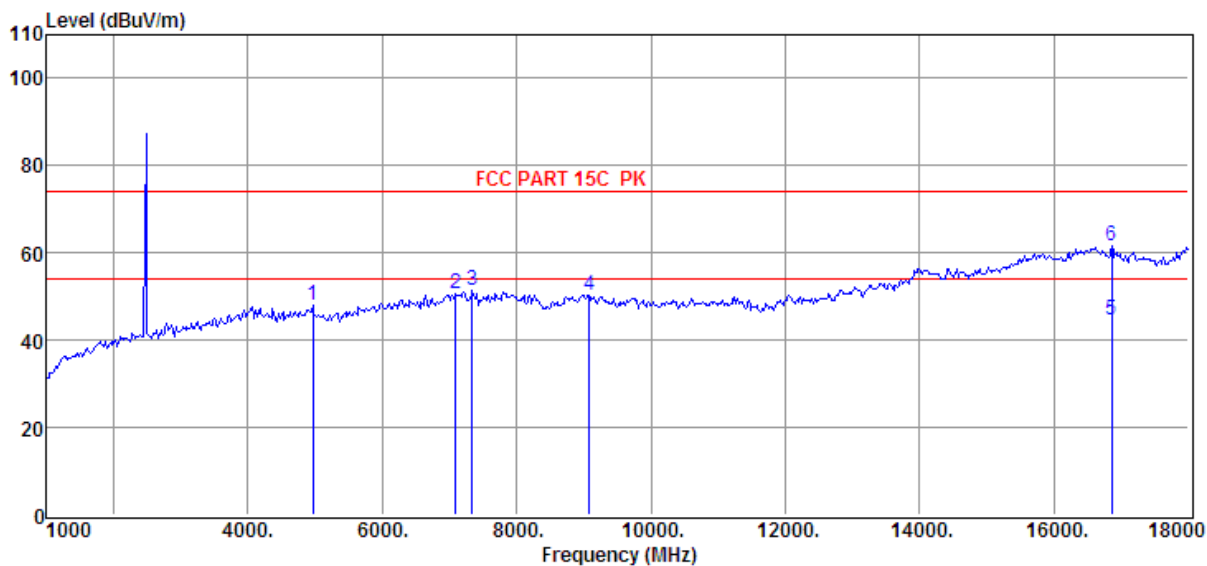
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	24545.00	21.00	44.70	37.71	19.72	47.71	54.00	-6.29	Average
2	24545.00	40.32	44.70	37.71	19.72	67.03	74.00	-6.97	Peak

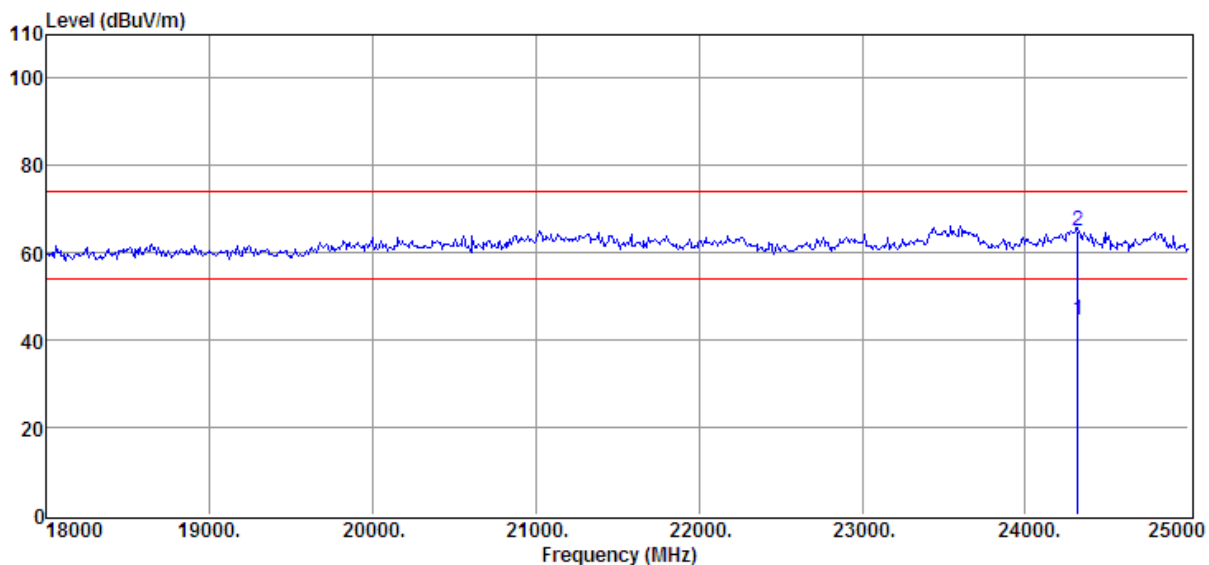
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

EUT:	FlexNode Line Powered Radio	Polarization :	Horizontal
Test Mode:	High Chanel - Antenna 1		



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	4960.00	35.03	33.71	29.35	8.63	48.02	74.00	-25.98	Peak
2	7086.00	34.41	36.27	30.42	10.51	50.77	74.00	-23.23	Peak
3	7341.00	34.62	36.48	30.59	10.72	51.23	74.00	-22.77	Peak
4	9075.00	33.56	37.33	32.35	11.89	50.43	74.00	-23.57	Peak
5	16861.00	19.00	44.12	36.54	18.17	44.75	54.00	-9.25	Average
6	16861.00	35.74	44.12	36.54	18.17	61.49	74.00	-12.51	Peak

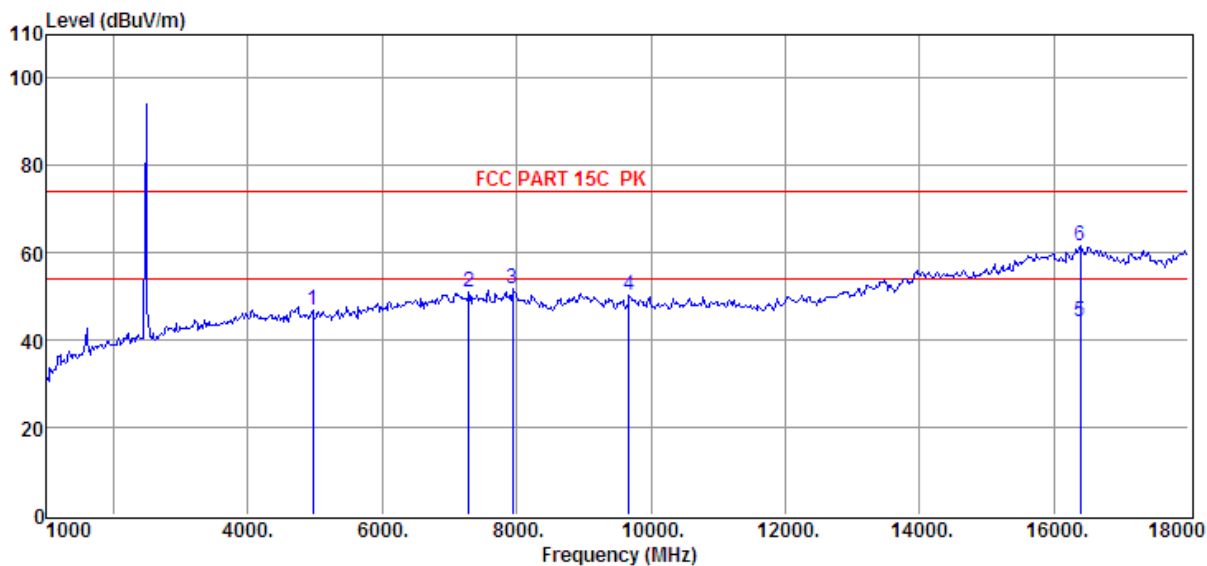
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	24321.00	17.98	44.70	37.71	19.72	44.69	54.00	-9.31	Average
2	24321.00	38.13	44.70	37.71	19.72	64.84	74.00	-9.16	Peak

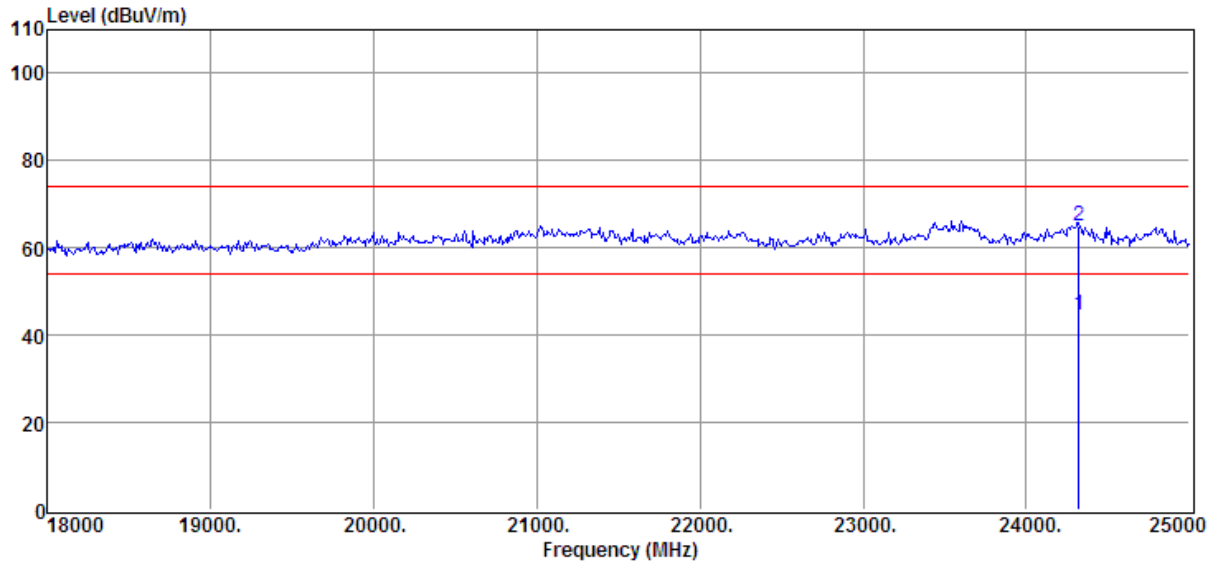
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

EUT:	FlexNode Line Powered Radio	Polarization :	Vertical
Test Mode:	High Chanel - Antenna 1		



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	4960.00	33.98	33.71	29.35	8.63	46.97	74.00	-27.03	Peak
2	7290.00	34.56	36.44	30.55	10.68	51.13	74.00	-22.87	Peak
3	7936.00	35.07	36.69	31.11	11.10	51.75	74.00	-22.25	Peak
4	9670.00	34.02	36.57	32.77	12.39	50.21	74.00	-23.79	Peak
5	16385.00	18.06	44.52	35.92	17.40	44.06	54.00	-9.94	Average
6	16385.00	35.57	44.52	35.92	17.40	61.57	74.00	-12.43	Peak

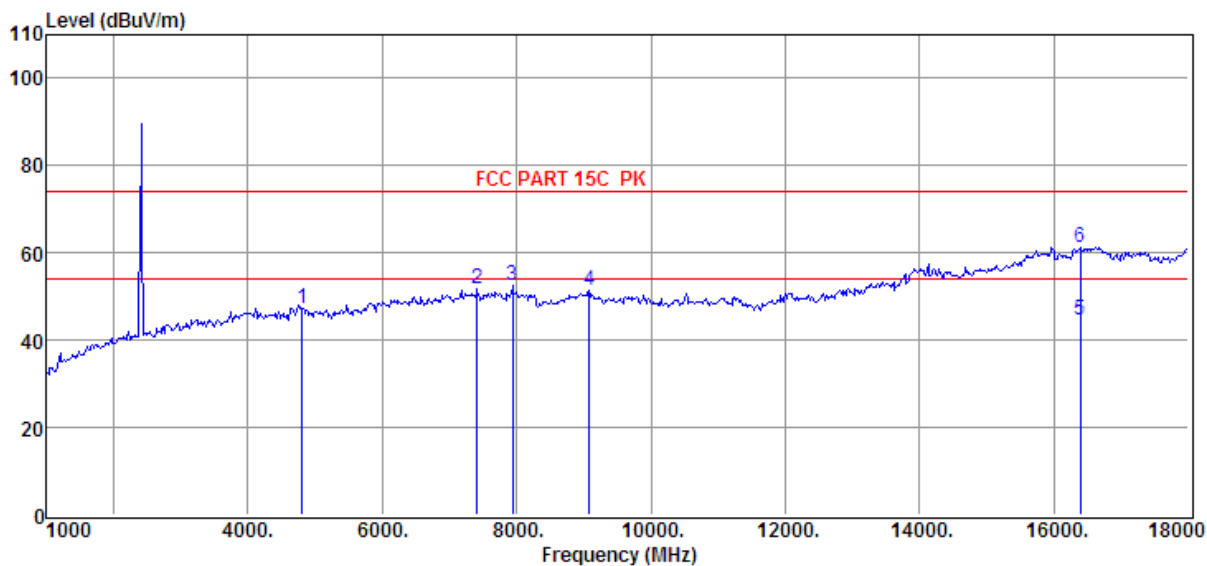
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	24321.00	17.98	44.70	37.71	19.72	44.69	54.00	-9.31	Average
2	24321.00	38.13	44.70	37.71	19.72	64.84	74.00	-9.16	Peak

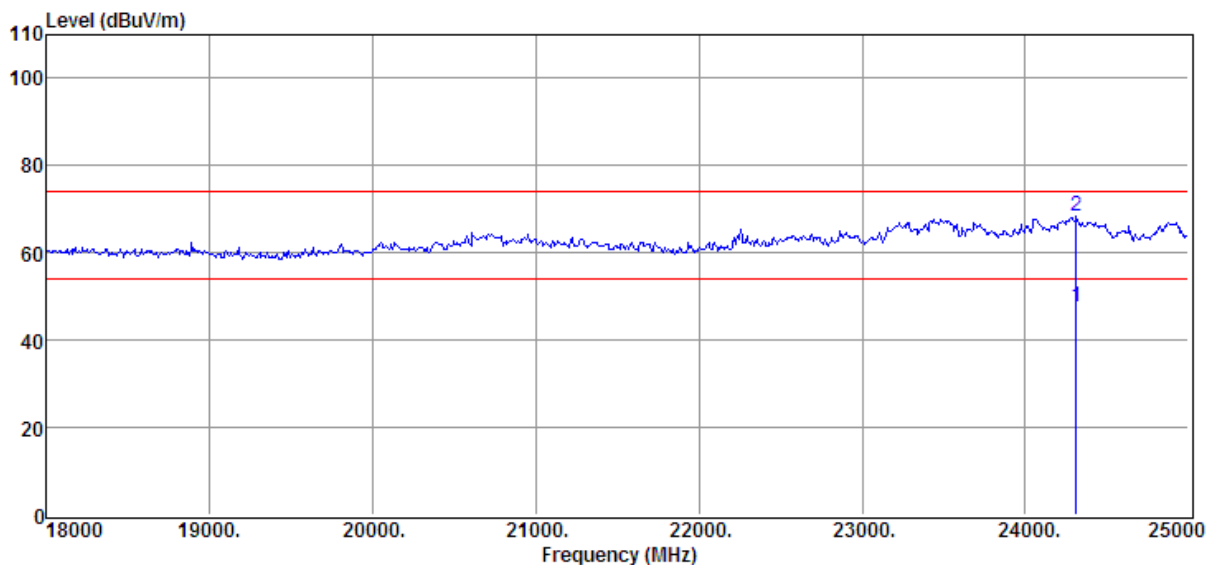
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

EUT:	FlexNode Line Powered Radio	Polarization :	Horizontal
Test Mode:	Low Chanel - Antenna 2		



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	4810.00	34.33	33.74	29.32	8.46	47.21	74.00	-26.79	Peak
2	7409.00	35.33	36.53	30.67	10.78	51.97	74.00	-22.03	Peak
3	7936.00	35.74	36.69	31.11	11.10	52.42	74.00	-21.58	Peak
4	9075.00	34.46	37.33	32.35	11.89	51.33	74.00	-22.67	Peak
5	16385.00	18.68	44.52	35.92	17.40	44.68	54.00	-9.32	Average
6	16385.00	35.41	44.52	35.92	17.40	61.41	74.00	-12.59	Peak

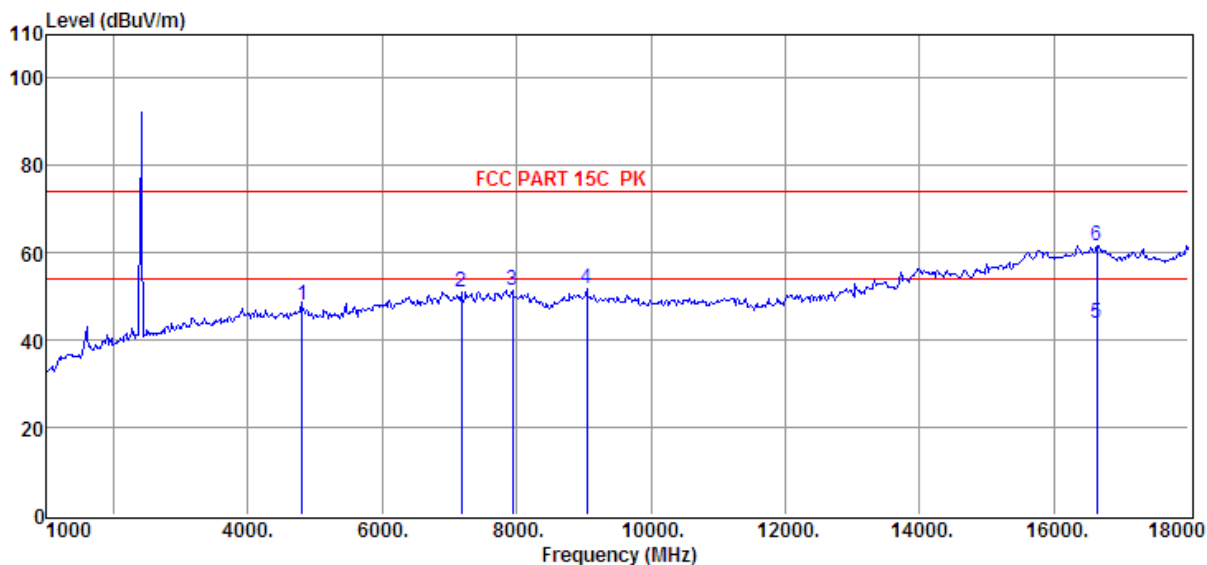
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	24314.00	20.89	44.70	37.71	19.72	47.60	54.00	-6.40	Average
2	24314.00	41.59	44.70	37.71	19.72	68.30	74.00	-5.70	Peak

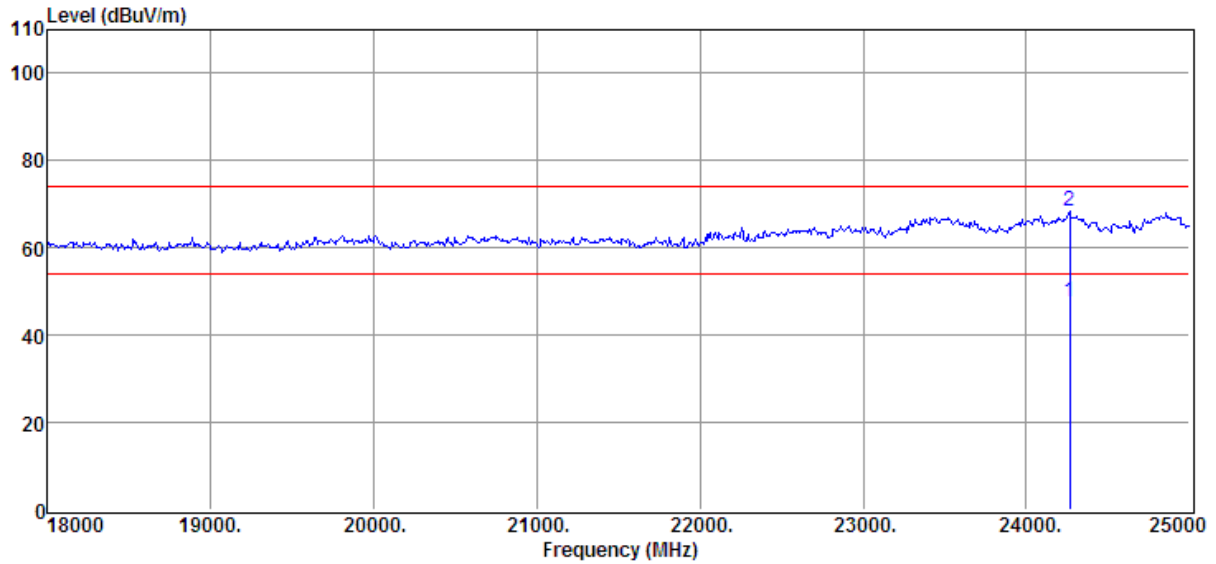
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

EUT:	FlexNode Line Powered Radio	Polarization :	Vertical
Test Mode:	Low Chanel - Antenna 2		



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	4810.00	35.03	33.74	29.32	8.46	47.91	74.00	-26.09	Peak
2	7171.00	34.78	36.34	30.48	10.57	51.21	74.00	-22.79	Peak
3	7936.00	34.76	36.69	31.11	11.10	51.44	74.00	-22.56	Peak
4	9041.00	34.75	37.41	32.34	11.87	51.69	74.00	-22.31	Peak
5	16640.00	17.90	44.47	36.28	17.74	43.83	54.00	-10.17	Average
6	16640.00	35.71	44.47	36.28	17.74	61.64	74.00	-12.36	Peak

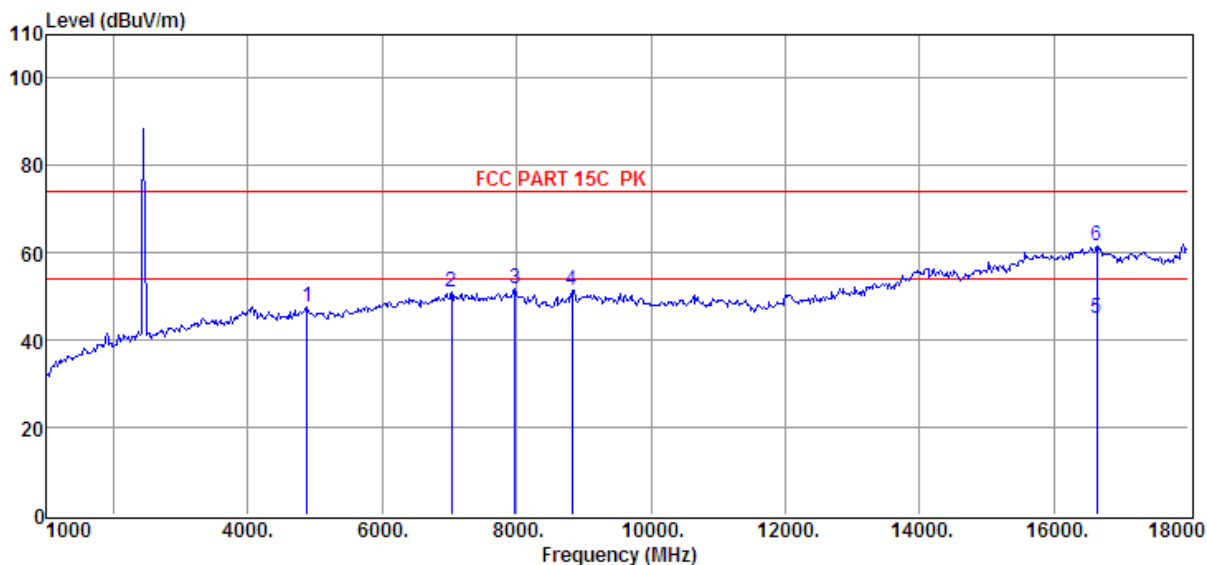
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	24265.00	21.00	44.70	37.71	19.72	47.71	54.00	-6.29	Average
2	24265.00	41.66	44.70	37.71	19.72	68.37	74.00	-5.63	Peak

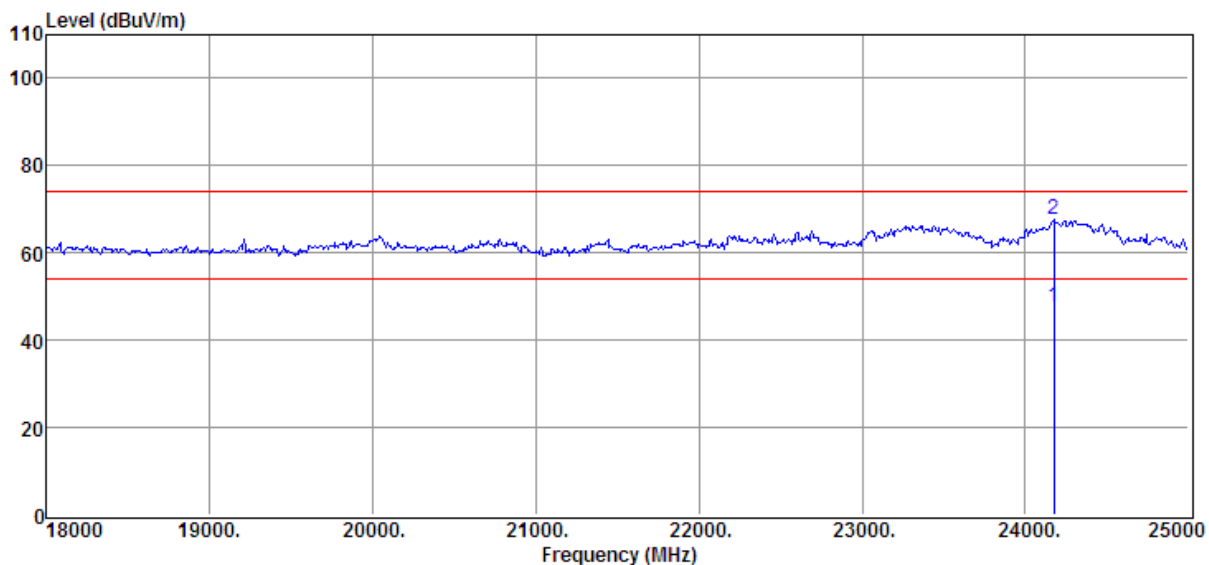
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

EUT:	FlexNode Line Powered Radio	Polarization :	Horizontal
Test Mode:	Middle Channel - Antenna 2		



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	4880.00	34.56	33.72	29.33	8.56	47.51	74.00	-26.49	Peak
2	7035.00	34.55	36.23	30.40	10.47	50.85	74.00	-23.15	Peak
3	7970.00	35.04	36.69	31.12	11.12	51.73	74.00	-22.27	Peak
4	8820.00	35.15	36.72	32.18	11.75	51.44	74.00	-22.56	Peak
5	16640.00	19.03	44.47	36.28	17.74	44.96	54.00	-9.04	Average
6	16640.00	35.73	44.47	36.28	17.74	61.66	74.00	-12.34	Peak

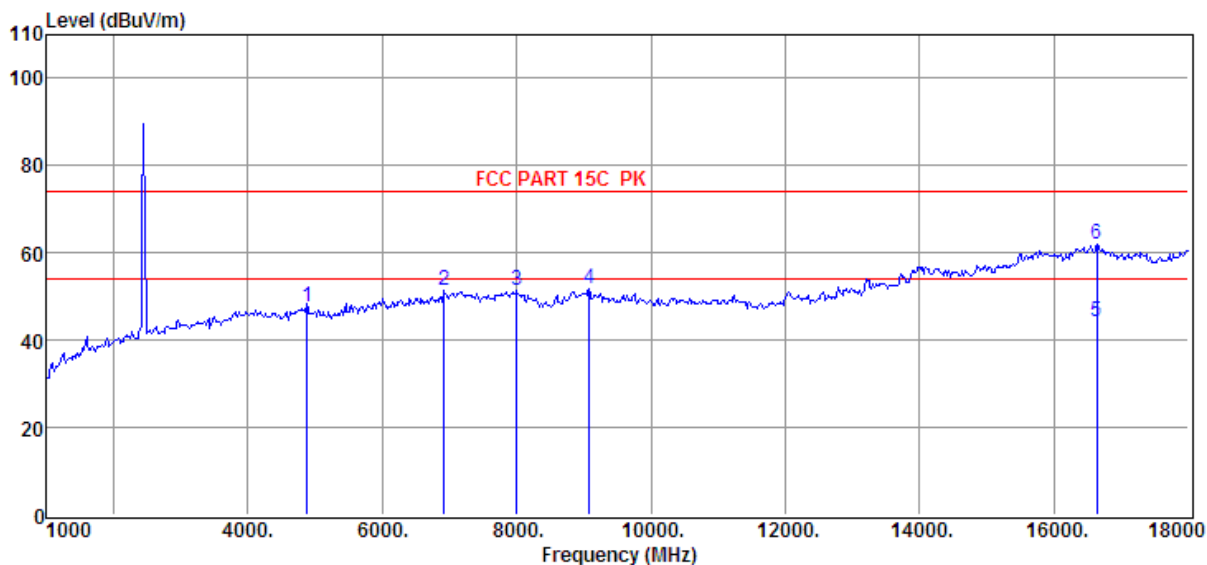
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	24174.00	20.78	44.70	37.71	19.72	47.49	54.00	-6.51	Average
2	24174.00	40.95	44.70	37.71	19.72	67.66	74.00	-6.34	Peak

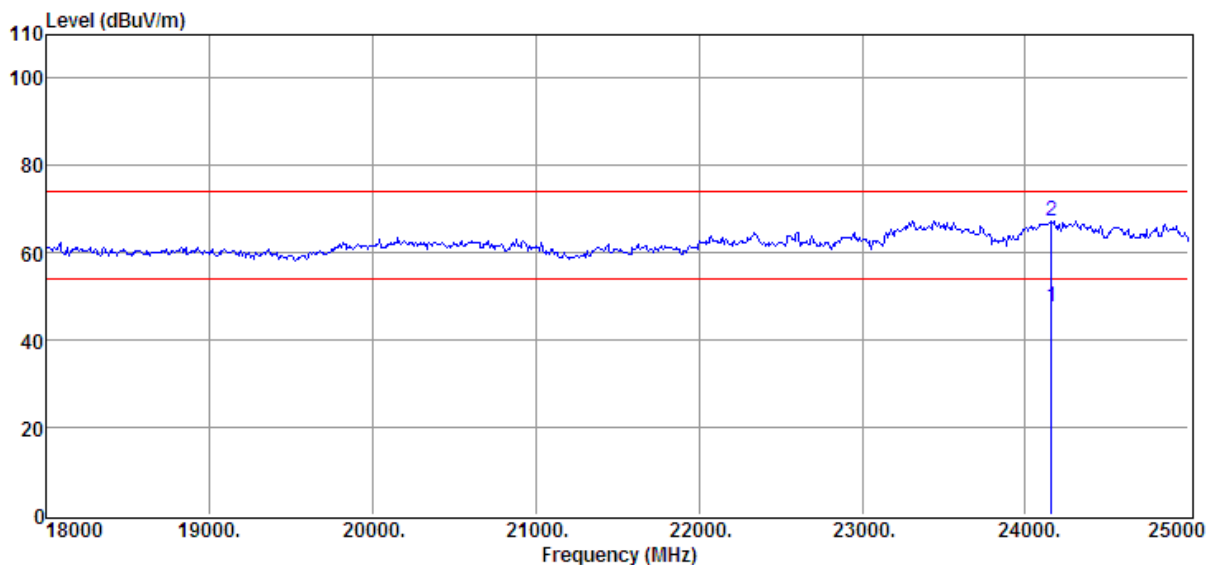
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

EUT:	FlexNode Line Powered Radio	Polarization :	Vertical
Test Mode:	Middle Channel - Antenna 2		



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	4880.00	34.85	33.72	29.33	8.56	47.80	74.00	-26.20	Peak
2	6916.00	35.17	36.13	30.33	10.37	51.34	74.00	-22.66	Peak
3	8004.00	34.65	36.69	31.13	11.13	51.34	74.00	-22.66	Peak
4	9075.00	34.96	37.33	32.35	11.89	51.83	74.00	-22.17	Peak
5	16640.00	18.15	44.47	36.28	17.74	44.08	54.00	-9.92	Average
6	16640.00	35.88	44.47	36.28	17.74	61.81	74.00	-12.19	Peak

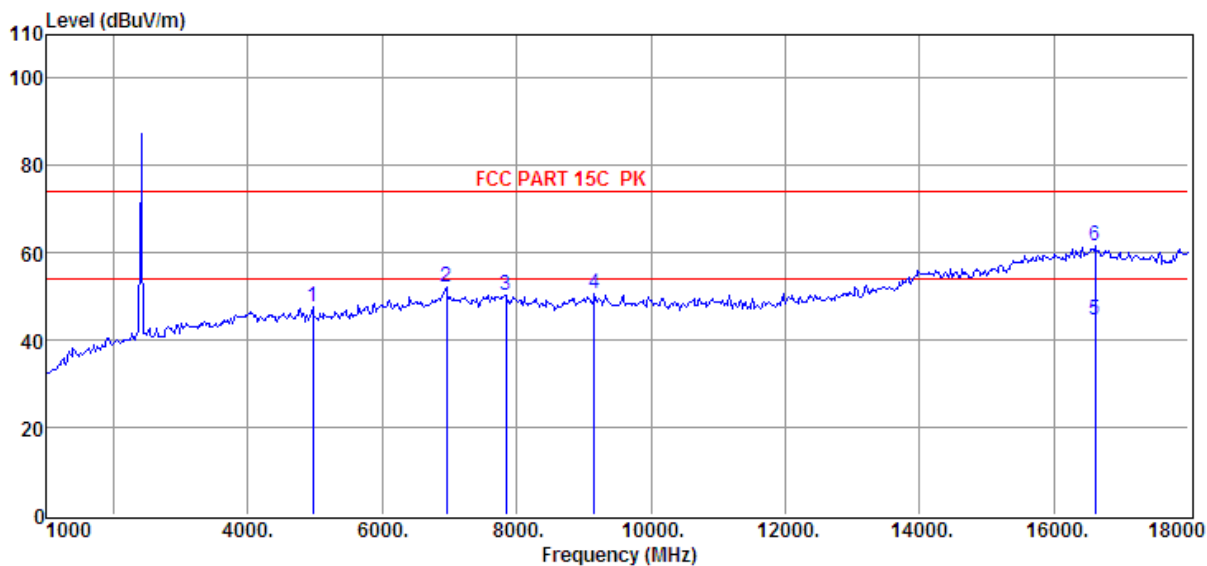
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	24160.00	20.98	44.70	37.71	19.72	47.69	54.00	-6.31	Average
2	24160.00	40.54	44.70	37.71	19.72	67.25	74.00	-6.75	Peak

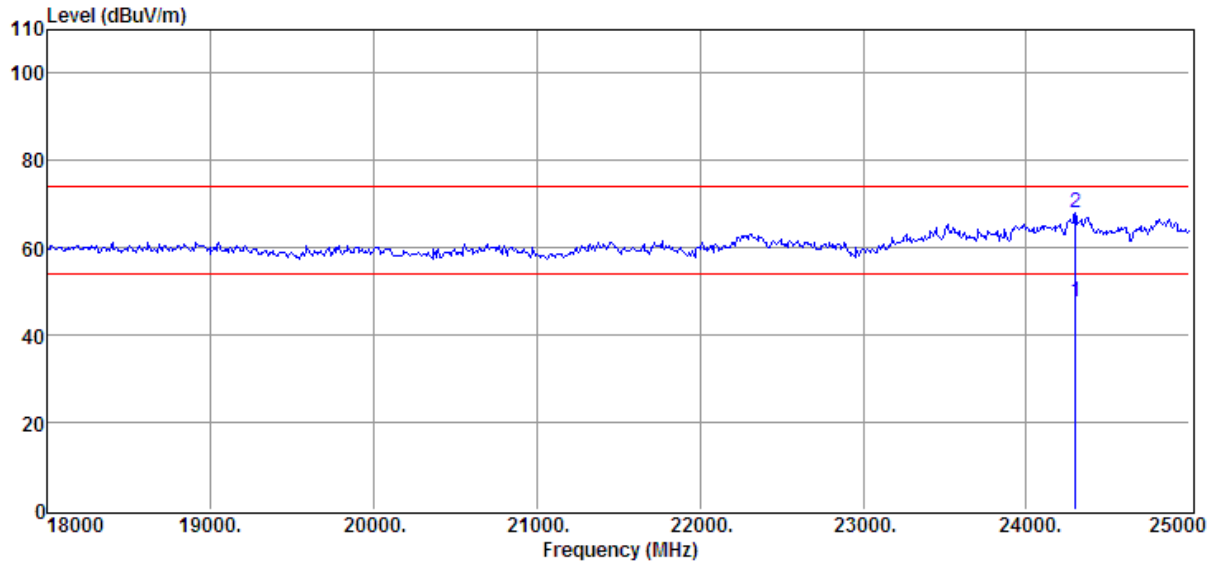
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

EUT:	FlexNode Line Powered Radio	Polarization :	Horizontal
Test Mode:	High Chanel - Antenna 2		



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	4960.00	34.54	33.71	29.35	8.63	47.53	74.00	-26.47	Peak
2	6950.00	36.01	36.16	30.34	10.39	52.22	74.00	-21.78	Peak
3	7834.00	33.63	36.67	31.07	11.05	50.28	74.00	-23.72	Peak
4	9160.00	33.91	37.14	32.39	12.01	50.67	74.00	-23.33	Peak
5	16606.00	18.68	44.53	36.21	17.71	44.71	54.00	-9.29	Average
6	16606.00	35.65	44.53	36.21	17.71	61.68	74.00	-12.32	Peak

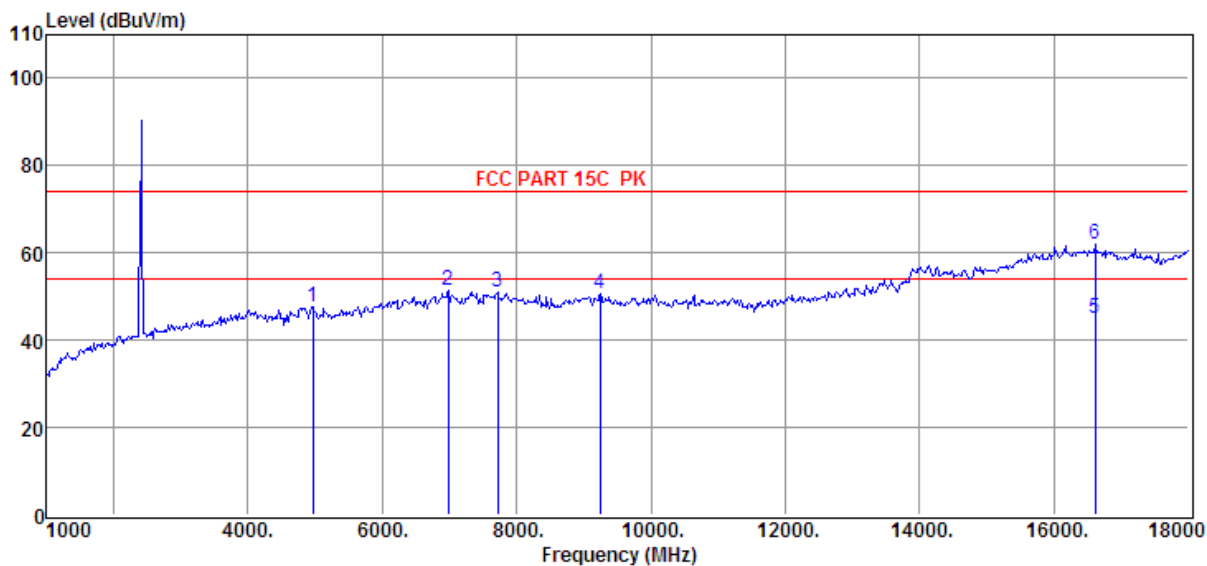
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	24300.00	20.96	44.70	37.71	19.72	47.67	54.00	-6.33	Average
2	24300.00	41.49	44.70	37.71	19.72	68.20	74.00	-5.80	Peak

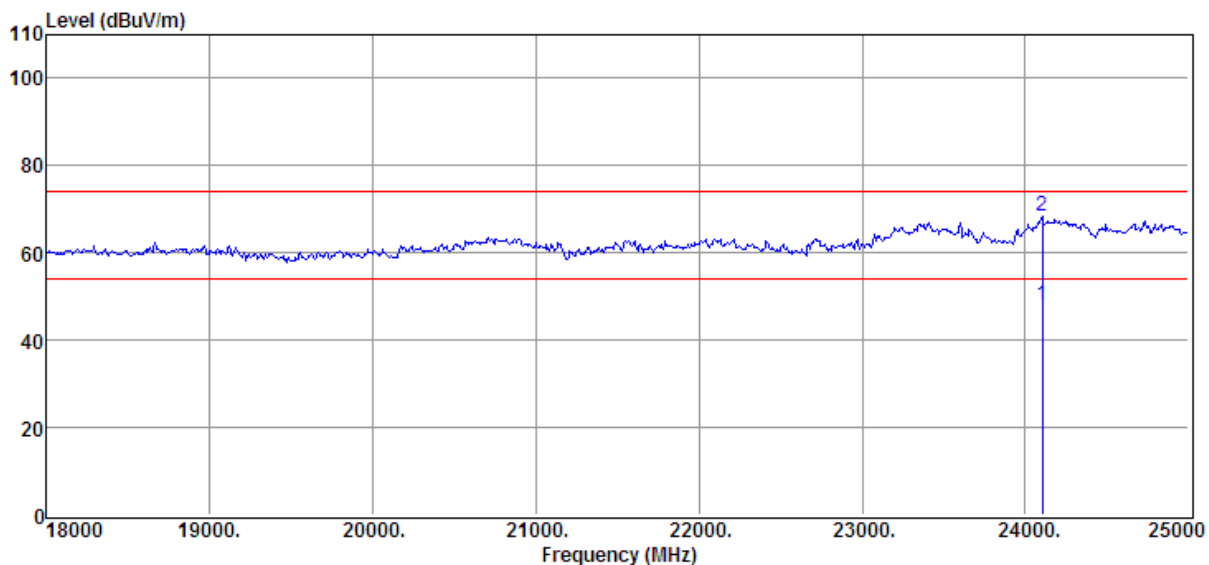
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

EUT:	FlexNode Line Powered Radio	Polarization :	Vertical
Test Mode:	High Chanel - Antenna 2		



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	4960.00	34.65	33.71	29.35	8.63	47.64	74.00	-26.36	Peak
2	6984.00	35.15	36.19	30.38	10.40	51.36	74.00	-22.64	Peak
3	7715.00	34.55	36.64	30.99	10.98	51.18	74.00	-22.82	Peak
4	9245.00	33.89	36.95	32.45	12.09	50.48	74.00	-23.52	Peak
5	16606.00	18.96	44.53	36.21	17.71	44.99	54.00	-9.01	Average
6	16606.00	35.87	44.53	36.21	17.71	61.90	74.00	-12.10	Peak

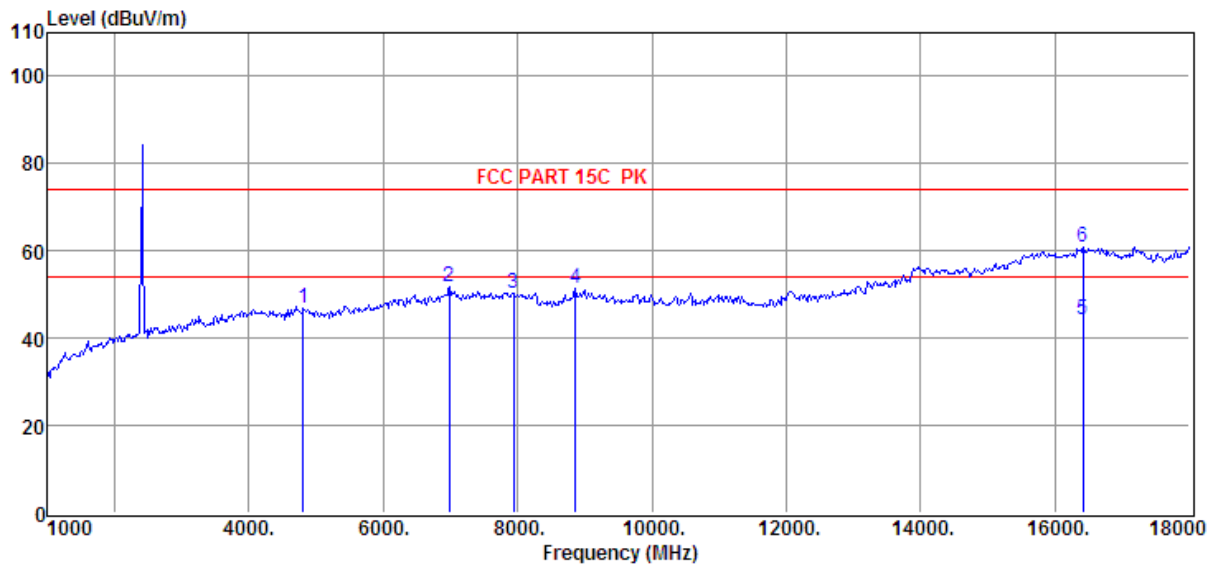
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	24104.00	21.20	44.70	37.71	19.72	47.91	54.00	-6.09	Average
2	24104.00	41.64	44.70	37.71	19.72	68.35	74.00	-5.65	Peak

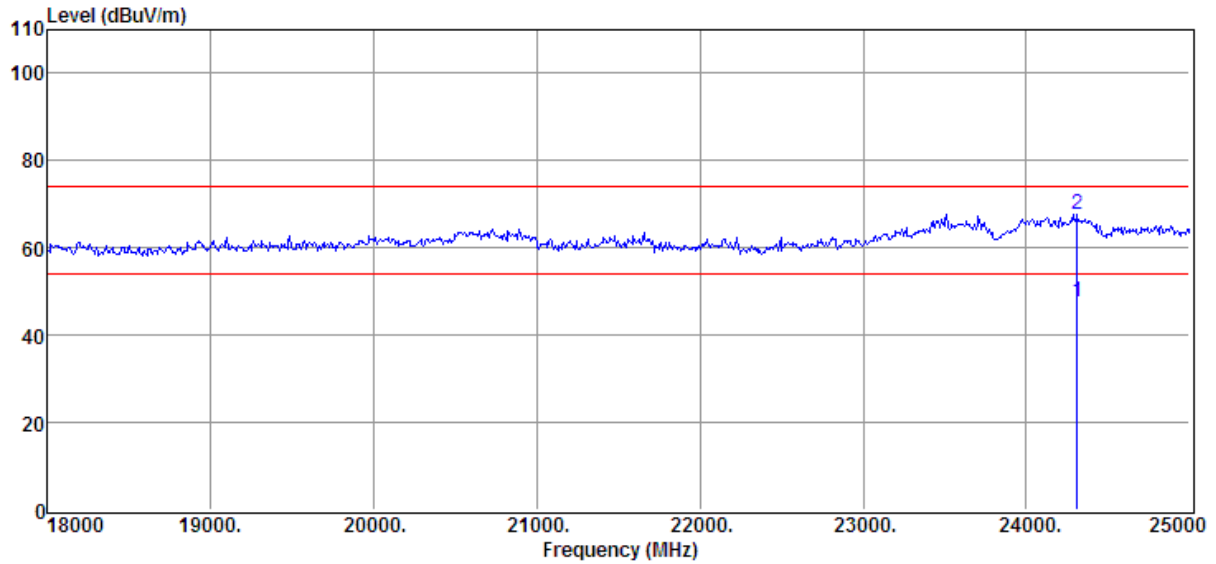
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

EUT:	FlexNode Line Powered Radio	Polarization :	Horizontal
Test Mode:	Low Chanel - Antenna 3		



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	4810.00	34.04	33.74	29.32	8.46	46.92	74.00	-27.08	Peak
2	6984.00	35.63	36.19	30.38	10.40	51.84	74.00	-22.16	Peak
3	7936.00	33.75	36.69	31.11	11.10	50.43	74.00	-23.57	Peak
4	8854.00	34.84	36.87	32.22	11.76	51.25	74.00	-22.75	Peak
5	16419.00	17.98	44.57	35.92	17.43	44.06	54.00	-9.94	Average
6	16419.00	34.78	44.57	35.92	17.43	60.86	74.00	-13.14	Peak

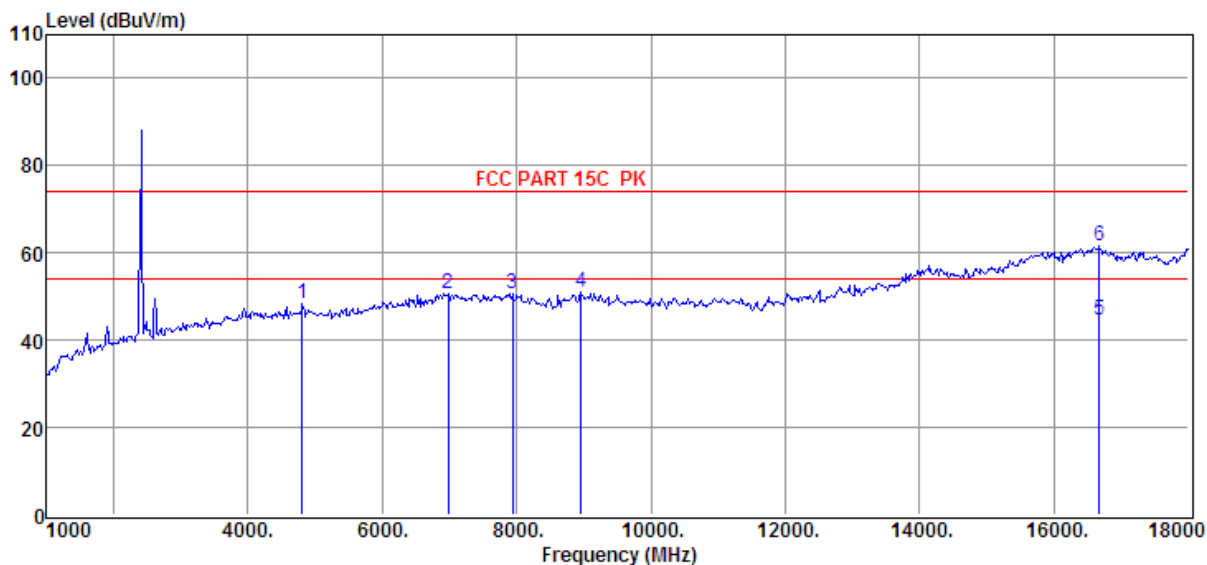
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	24314.00	20.87	44.70	37.71	19.72	47.58	54.00	-6.42	Average
2	24314.00	40.99	44.70	37.71	19.72	67.70	74.00	-6.30	Peak

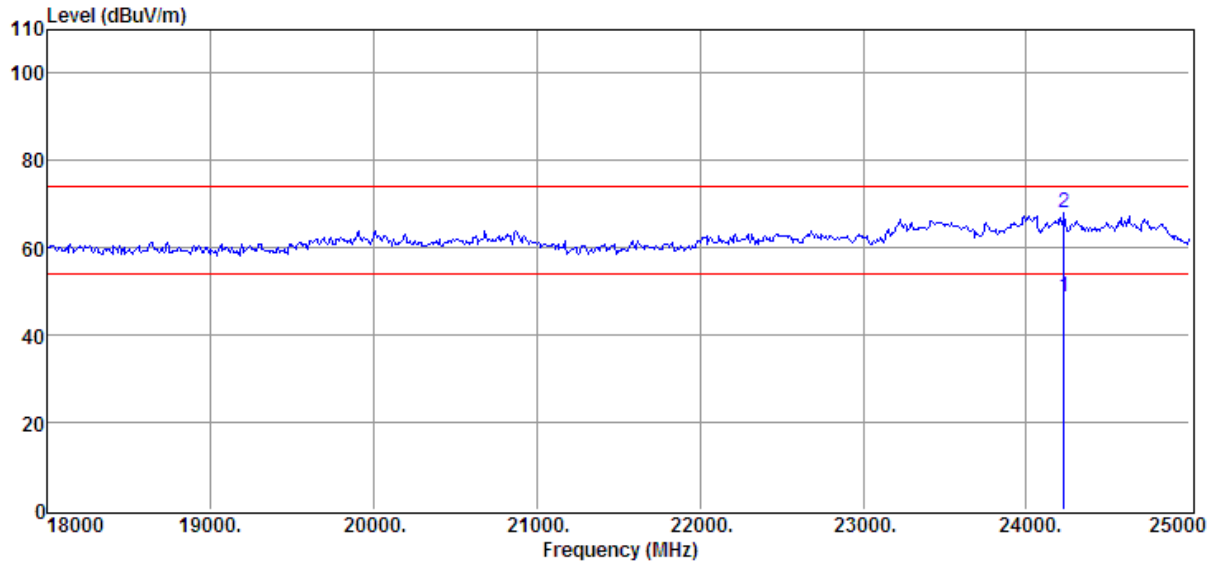
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

EUT:	FlexNode Line Powered Radio	Polarization :	Vertical
Test Mode:	Low Chanel - Antenna 3		



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	4810.00	35.33	33.74	29.32	8.46	48.21	74.00	-25.79	Peak
2	6984.00	34.45	36.19	30.38	10.40	50.66	74.00	-23.34	Peak
3	7936.00	33.94	36.69	31.11	11.10	50.62	74.00	-23.38	Peak
4	8956.00	34.16	37.31	32.28	11.79	50.98	74.00	-23.02	Peak
5	16674.00	18.58	44.42	36.28	17.84	44.56	54.00	-9.44	Average
6	16674.00	35.73	44.42	36.28	17.84	61.71	74.00	-12.29	Peak

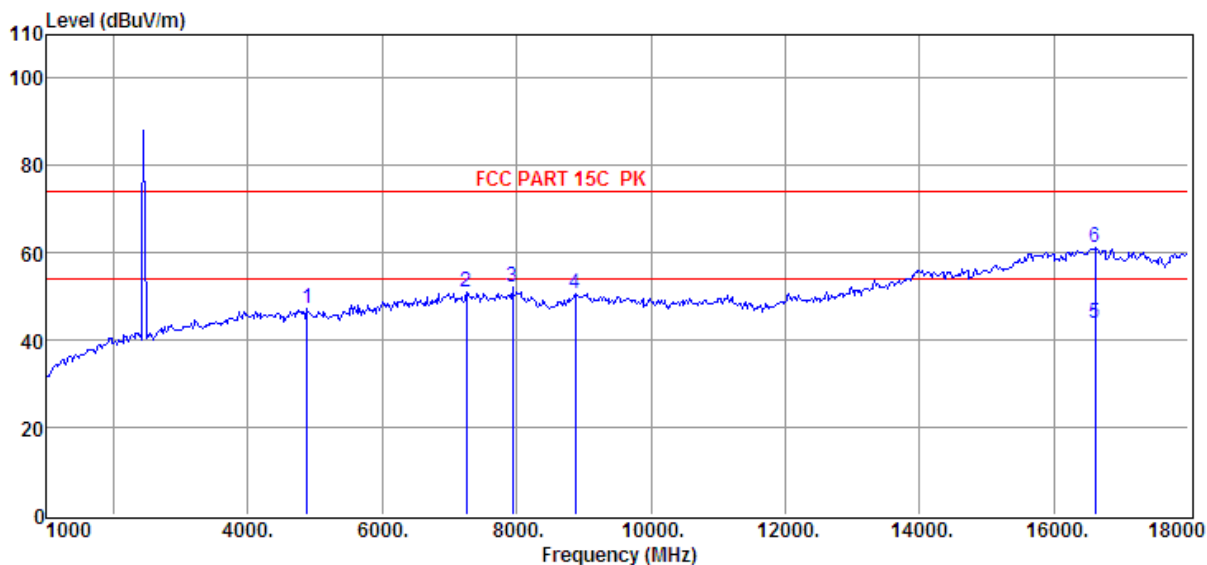
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	24230.00	22.10	44.70	37.71	19.72	48.81	54.00	-5.19	Average
2	24230.00	41.43	44.70	37.71	19.72	68.14	74.00	-5.86	Peak

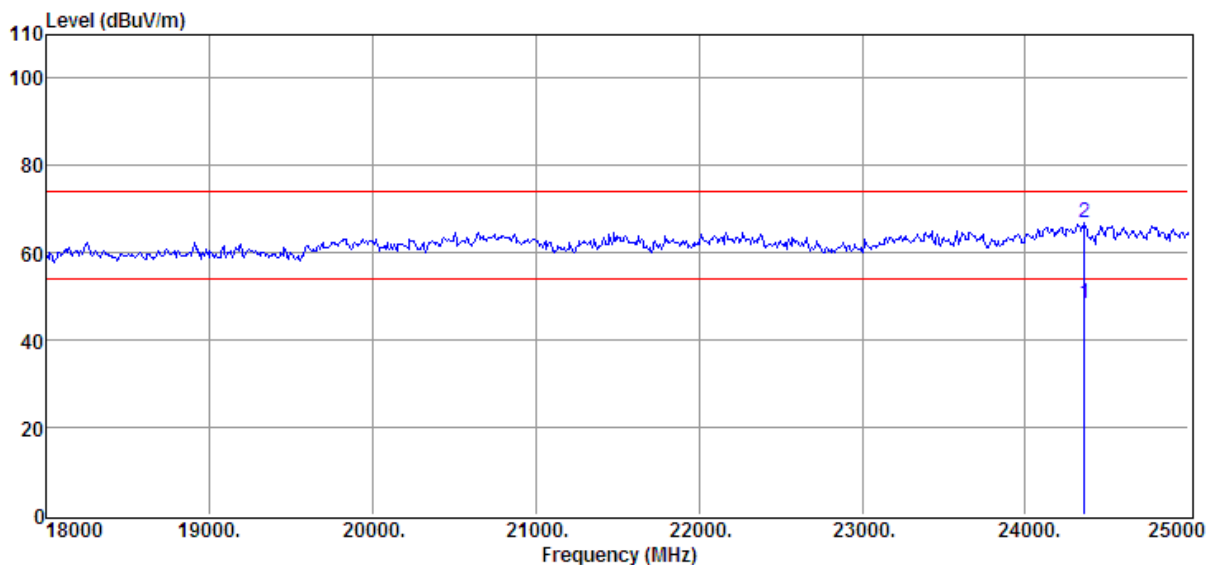
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

EUT:	FlexNode Line Powered Radio	Polarization :	Horizontal
Test Mode:	Middle Channel - Antenna 3		



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	4880.00	34.26	33.72	29.33	8.56	47.21	74.00	-26.79	Peak
2	7256.00	34.59	36.41	30.54	10.65	51.11	74.00	-22.89	Peak
3	7936.00	35.34	36.69	31.11	11.10	52.02	74.00	-21.98	Peak
4	8871.00	34.30	36.94	32.22	11.77	50.79	74.00	-23.21	Peak
5	16606.00	18.00	44.53	36.21	17.71	44.03	54.00	-9.97	Average
6	16606.00	35.21	44.53	36.21	17.71	61.24	74.00	-12.76	Peak

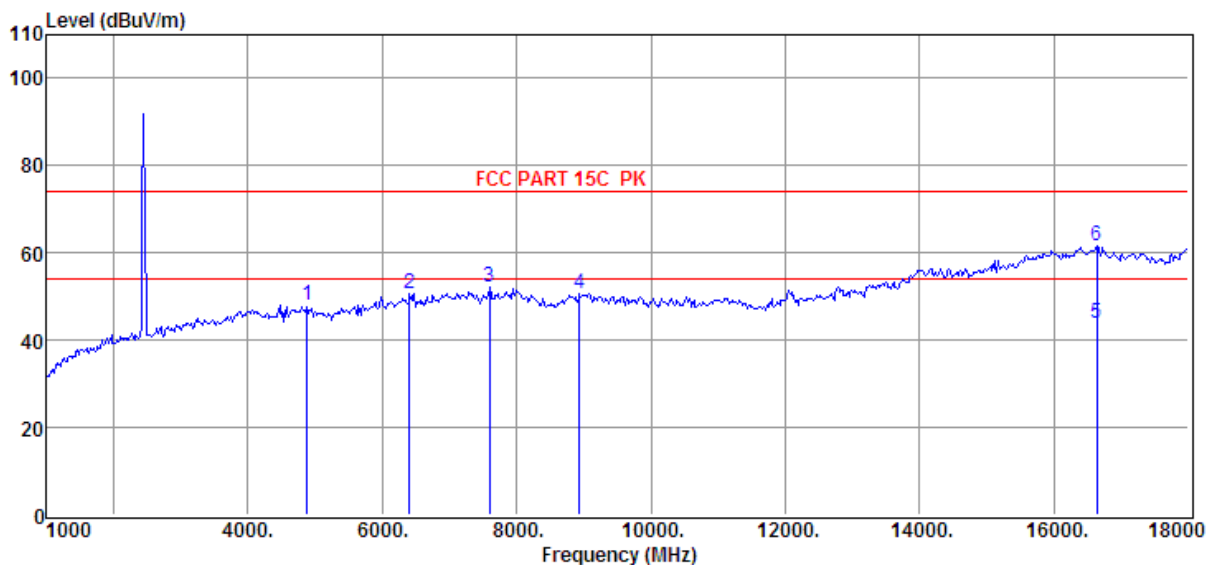
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	24363.00	21.78	44.70	37.71	19.72	48.49	54.00	-5.51	Average
2	24363.00	40.09	44.70	37.71	19.72	66.80	74.00	-7.20	Peak

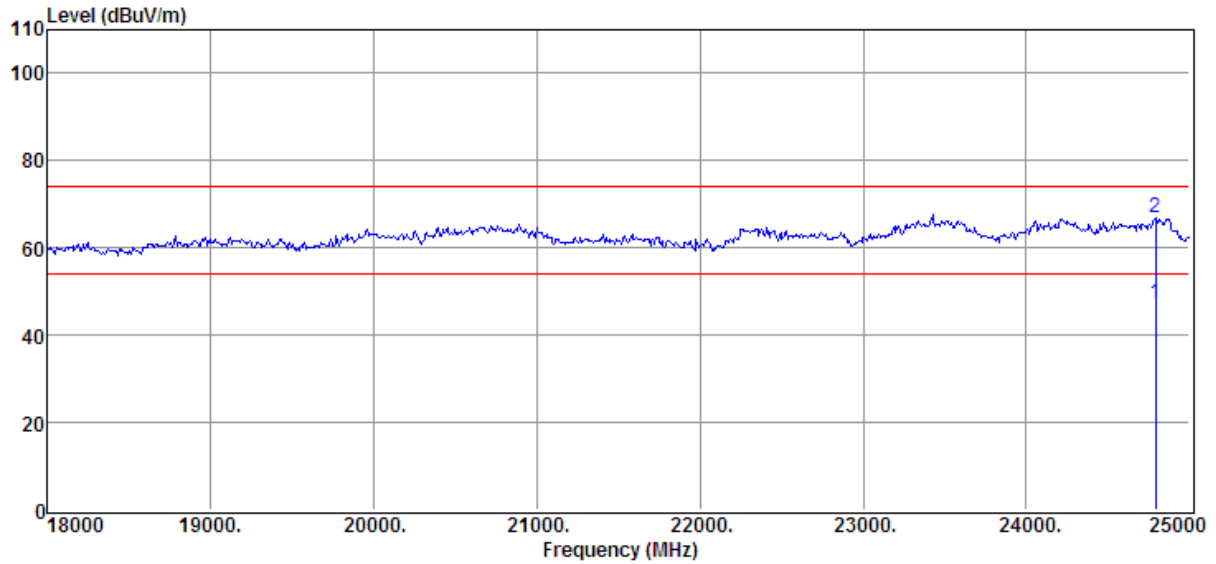
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

EUT:	FlexNode Line Powered Radio	Polarization :	Vertical
Test Mode:	Middle Channel - Antenna 3		



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	4880.00	35.03	33.72	29.33	8.56	47.98	74.00	-26.02	Peak
2	6406.00	34.81	35.65	29.66	9.88	50.68	74.00	-23.32	Peak
3	7596.00	35.54	36.62	30.90	10.91	52.17	74.00	-21.83	Peak
4	8939.00	33.79	37.24	32.26	11.79	50.56	74.00	-23.44	Peak
5	16640.00	18.00	44.47	36.28	17.74	43.93	54.00	-10.07	Average
6	16640.00	35.52	44.47	36.28	17.74	61.45	74.00	-12.55	Peak

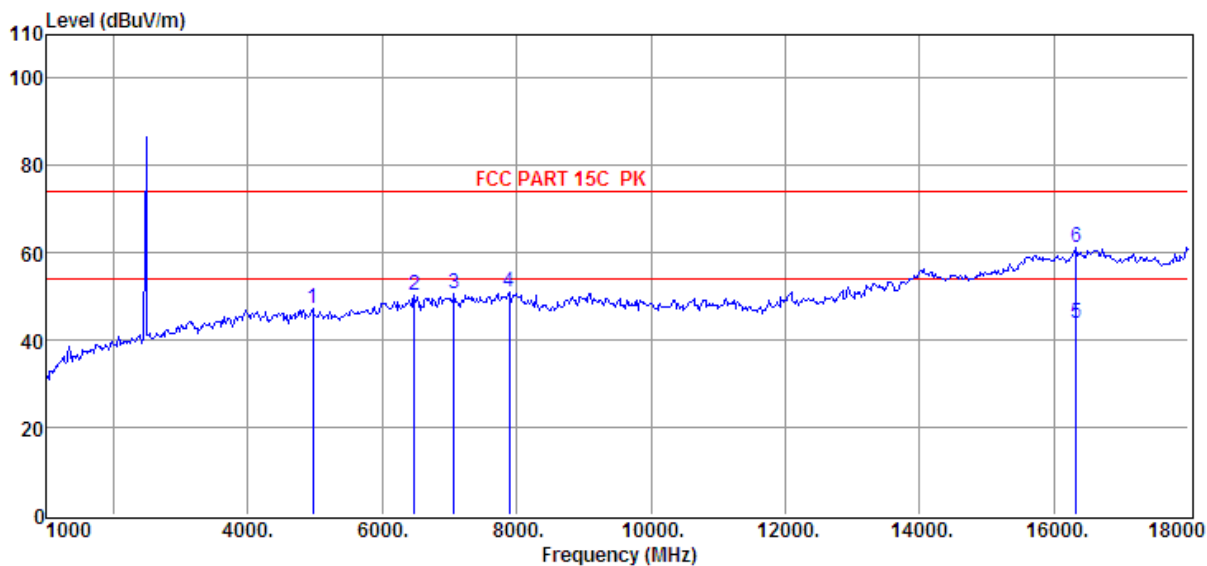
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	24790.00	20.45	44.70	37.71	19.72	47.16	54.00	-6.84	Average
2	24790.00	40.31	44.70	37.71	19.72	67.02	74.00	-6.98	Peak

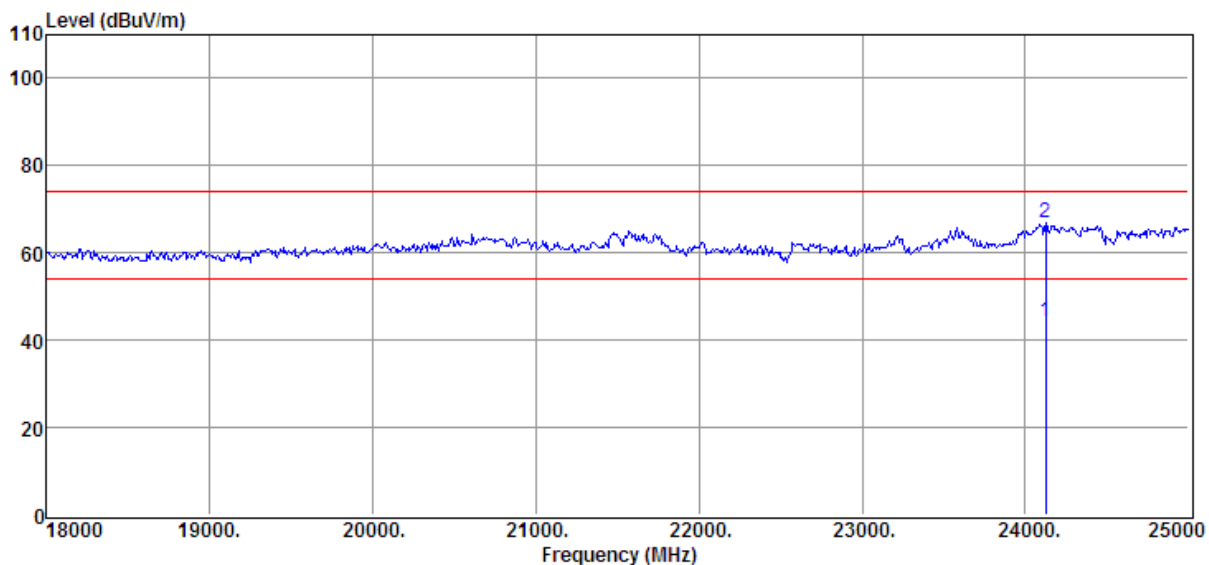
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

EUT:	FlexNode Line Powered Radio	Polarization :	Horizontal
Test Mode:	High Chanel - Antenna 3		



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	4960.00	34.41	33.71	29.35	8.63	47.40	74.00	-26.60	Peak
2	6474.00	34.18	35.76	29.78	9.93	50.09	74.00	-23.91	Peak
3	7069.00	34.45	36.26	30.42	10.50	50.79	74.00	-23.21	Peak
4	7885.00	34.26	36.68	31.09	11.08	50.93	74.00	-23.07	Peak
5	16334.00	17.98	44.44	35.86	17.35	43.91	54.00	-10.09	Average
6	16334.00	35.35	44.44	35.86	17.35	61.28	74.00	-12.72	Peak

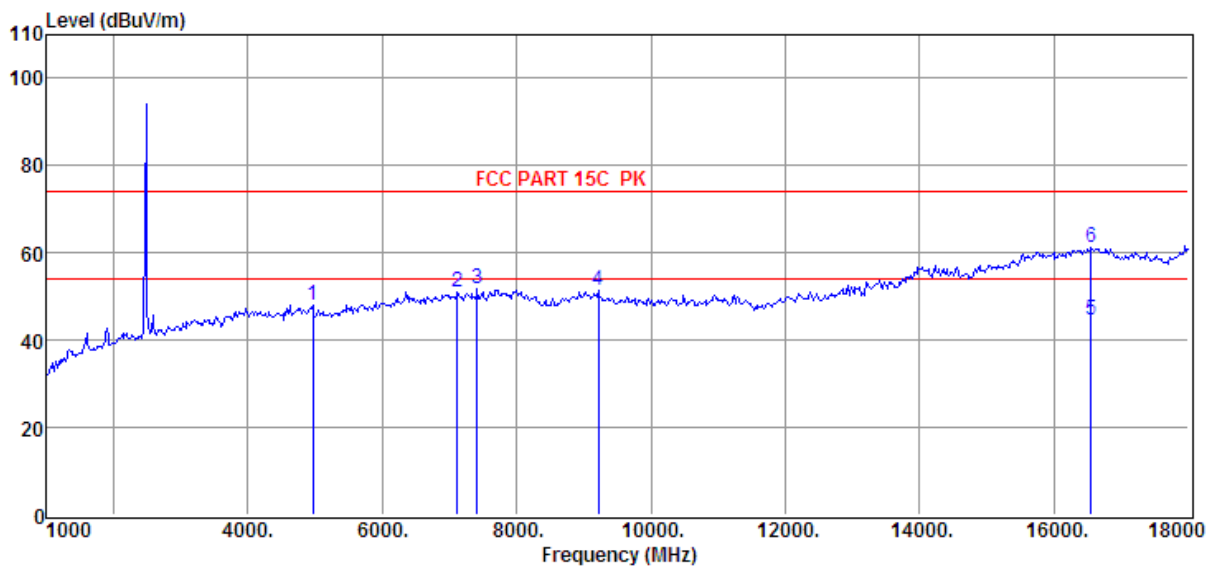
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	24125.00	17.69	44.70	37.71	19.72	44.40	54.00	-9.60	Average
2	24125.00	40.04	44.70	37.71	19.72	66.75	74.00	-7.25	Peak

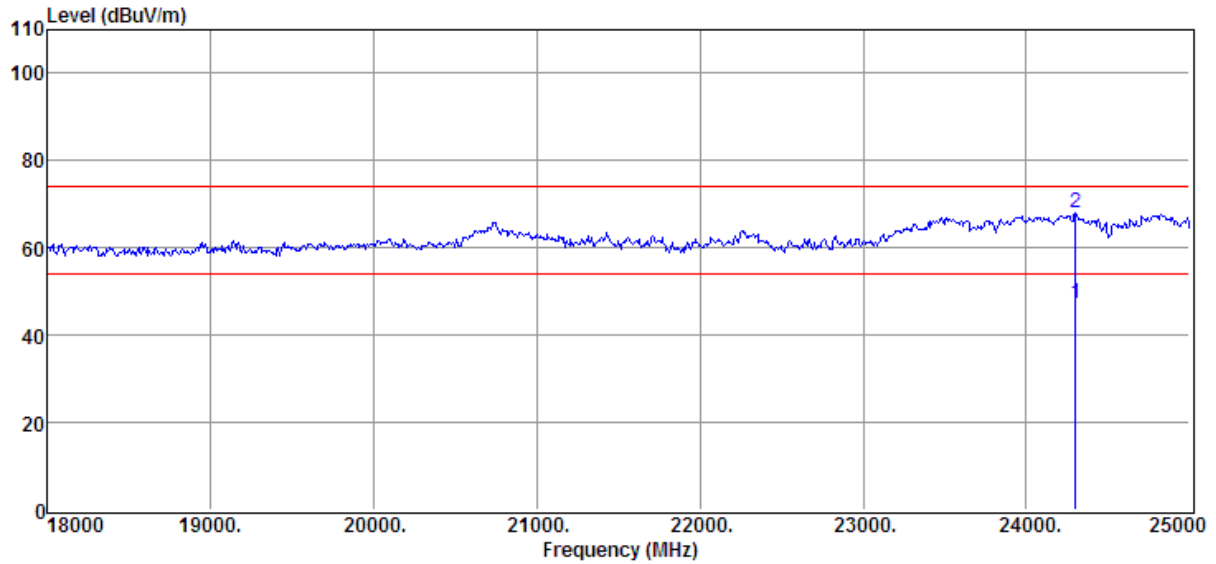
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

EUT:	FlexNode Line Powered Radio	Polarization :	Vertical
Test Mode:	High Chanel - Antenna 3		



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	4960.00	34.92	33.71	29.35	8.63	47.91	74.00	-26.09	Peak
2	7120.00	34.72	36.30	30.44	10.55	51.13	74.00	-22.87	Peak
3	7409.00	35.05	36.53	30.67	10.78	51.69	74.00	-22.31	Peak
4	9211.00	34.56	37.03	32.42	12.05	51.22	74.00	-22.78	Peak
5	16555.00	18.65	44.61	36.14	17.61	44.73	54.00	-9.27	Average
6	16555.00	35.20	44.61	36.14	17.61	61.28	74.00	-12.72	Peak

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.



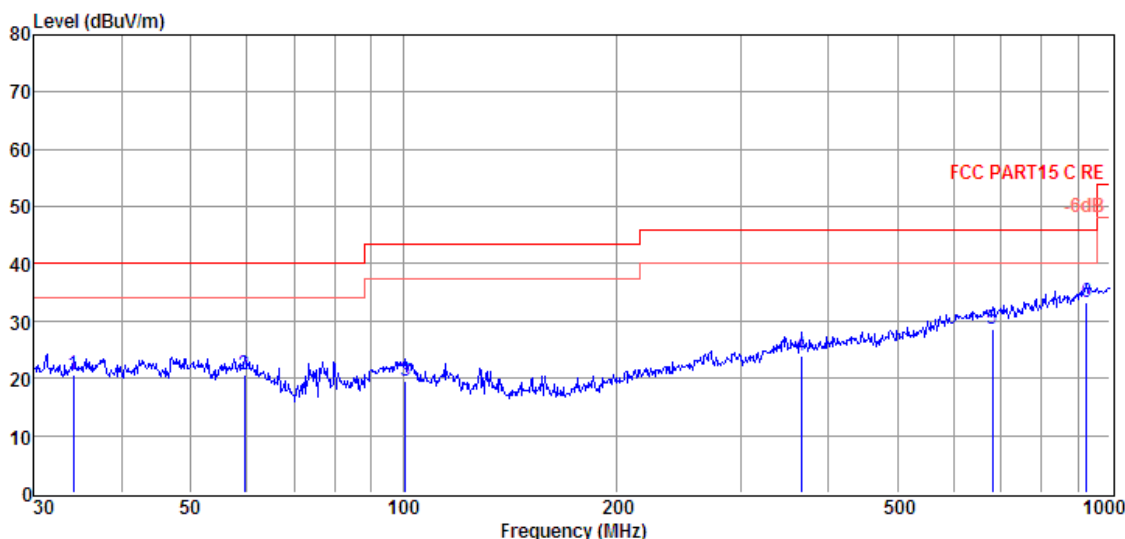
Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector
1	24300.00	20.68	44.70	37.71	19.72	47.39	54.00	-6.61	Average
2	24300.00	41.23	44.70	37.71	19.72	67.94	74.00	-6.06	Peak

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

7.4. SPURIOUS EMISSIONS 30M ~ 1 GHz

SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION)

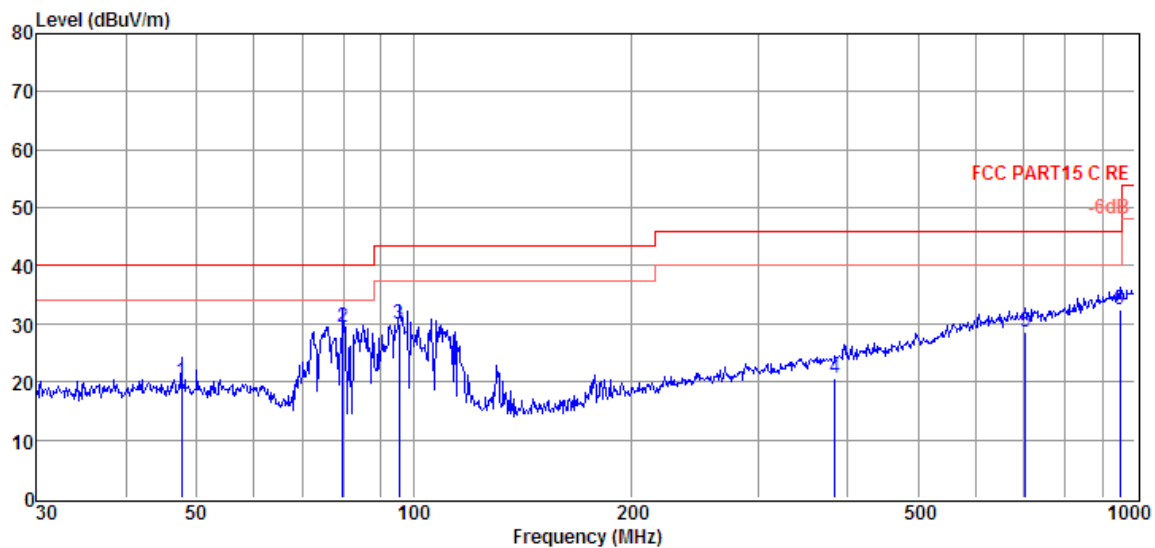
EUT:	FlexNode Line Powered Radio	Polarization :	Horizontal
Test Mode:	Middle Channel - Antenna 1		



Item	Freq.	Read Level	Antenna Factor	Cable Loss	Result Level	Limit Line	Over Limit	Detector
(Mark)	(MHz)	(dBμV)	(dB/m)	dB	(dBμV/m)	(dBμV/m)	(dB)	
1	34.16	5.18	11.63	3.72	20.53	40.00	-19.47	QP
2	59.65	4.86	11.70	3.98	20.54	40.00	-19.46	QP
3	100.58	3.24	11.95	4.31	19.50	43.50	-24.00	QP
4	365.54	3.22	15.11	5.66	23.99	46.00	-22.01	QP
5	682.35	1.83	19.88	6.77	28.48	46.00	-17.52	QP
6	925.76	3.15	22.70	7.49	33.34	46.00	-12.66	QP

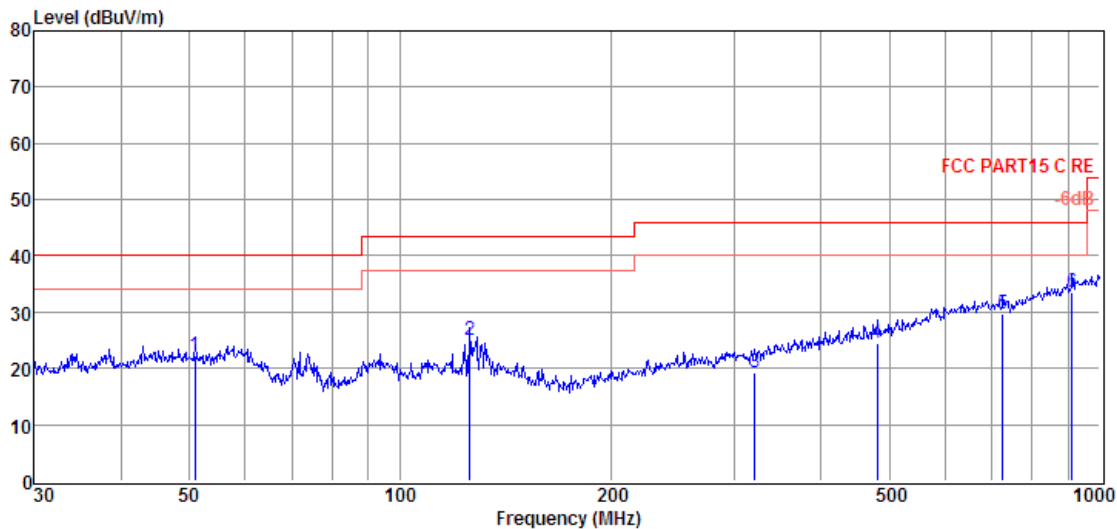
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss.
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

EUT:	FlexNode Line Powered Radio	Polarization :	Vertical
Test Mode:	Middle Channel - Antenna 1		



Item	Freq.	Read Level	Antenna Factor	Cable Loss	Result Level	Limit Line	Over Limit	Detector
(Mark)	(MHz)	(dBμV)	(dB/m)	dB	(dBμV/m)	(dBμV/m)	(dB)	
1	47.66	3.95	12.28	3.87	20.10	40.00	-19.90	QP
2	79.80	18.07	7.17	4.15	29.39	40.00	-10.61	QP
3	95.43	14.05	11.63	4.26	29.94	43.50	-13.56	QP
4	383.93	-0.52	15.32	5.73	20.53	46.00	-25.47	QP
5	704.23	1.93	19.82	6.84	28.59	46.00	-17.41	QP
6	952.09	1.99	22.86	7.56	32.41	46.00	-13.59	QP

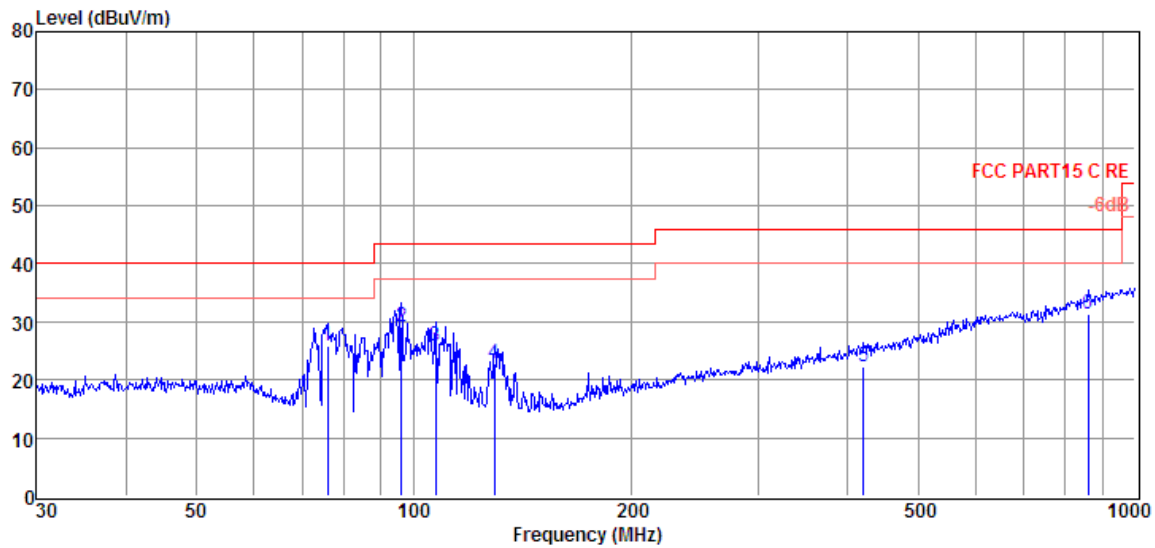
EUT:	FlexNode Line Powered Radio	Polarization :	Horizontal
Test Mode:	Middle Channel - Antenna 2		



Item	Freq.	Read Level	Antenna Factor	Cable Loss	Result Level	Limit Line	Over Limit	Detector
(Mark)	(MHz)	(dBμV)	(dB/m)	dB	(dBμV/m)	(dBμV/m)	(dB)	
1	50.94	6.48	11.86	3.90	22.24	40.00	-17.76	QP
2	125.89	12.49	8.15	4.46	25.10	43.50	-18.40	QP
3	321.06	0.19	13.72	5.47	19.38	46.00	-26.62	QP
4	480.53	1.39	17.10	6.10	24.59	46.00	-21.41	QP
5	726.81	2.97	19.80	6.91	29.68	46.00	-16.32	QP
6	912.86	3.63	22.56	7.45	33.64	46.00	-12.36	QP

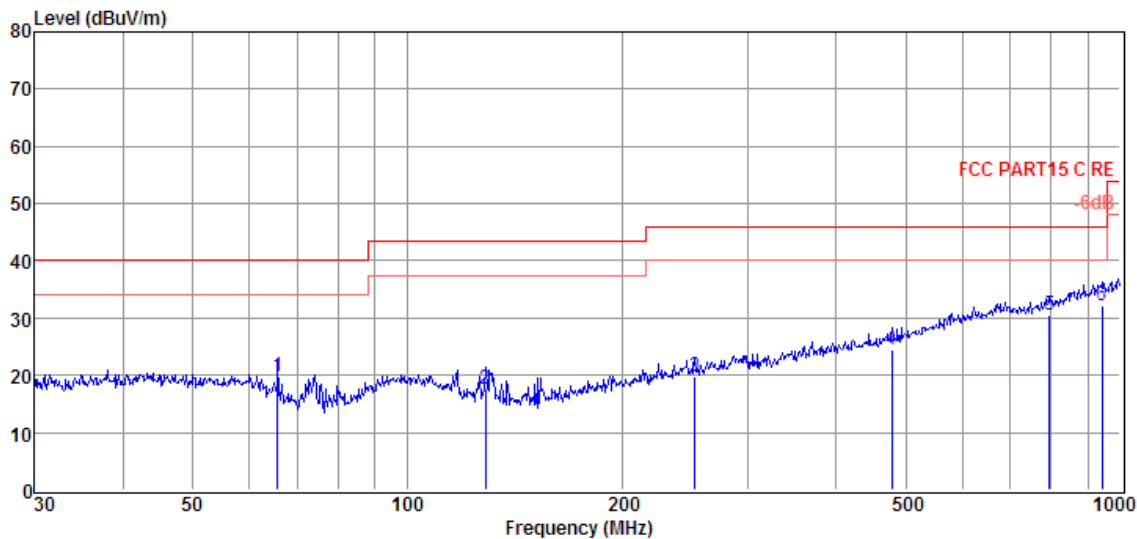
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss.
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

EUT:	FlexNode Line Powered Radio	Polarization :	Vertical
Test Mode:	Middle Channel - Antenna 2		



Item	Freq.	Read Level	Antenna Factor	Cable Loss	Result Level	Limit Line	Over Limit	Detector
(Mark)	(MHz)	(dBμV)	(dB/m)	dB	(dBμV/m)	(dBμV/m)	(dB)	
1	75.98	15.04	6.64	4.11	25.79	40.00	-14.21	QP
2	96.10	13.22	11.69	4.27	29.18	43.50	-14.32	QP
3	107.13	10.15	11.34	4.34	25.83	43.50	-17.67	QP
4	129.47	10.50	7.93	4.47	22.90	43.50	-20.60	QP
5	420.58	0.17	16.29	5.88	22.34	46.00	-23.66	QP
6	860.04	1.93	22.10	7.30	31.33	46.00	-14.67	QP

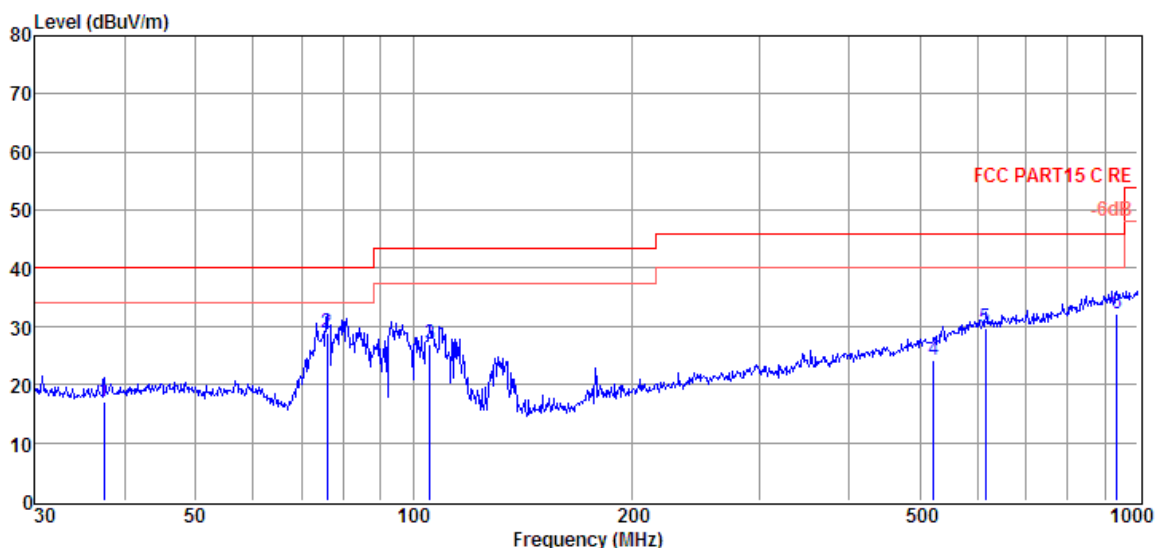
EUT:	FlexNode Line Powered Radio	Polarization :	Horizontal
Test Mode:	Middle Channel - Antenna 3		



Item	Freq.	Read Level	Antenna Factor	Cable Loss	Result Level	Limit Line	Over Limit	Detector
(Mark)	(MHz)	(dBμV)	(dB/m)	dB	(dBμV/m)	(dBμV/m)	(dB)	
1	65.80	6.57	9.17	4.03	19.77	40.00	-20.23	QP
2	128.56	5.11	7.99	4.47	17.57	43.50	-25.93	QP
3	252.95	2.46	12.30	5.15	19.91	46.00	-26.09	QP
4	478.85	1.27	17.04	6.09	24.40	46.00	-21.60	QP
5	796.18	2.21	21.09	7.11	30.41	46.00	-15.59	QP
6	942.13	1.72	22.96	7.53	32.21	46.00	-13.79	QP

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss.
 2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
 3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

EUT:	FlexNode Line Powered Radio	Polarization :	Vertical
Test Mode:	Middle Channel - Antenna 3		



Item	Freq.	Read Level	Antenna Factor	Cable Loss	Result Level	Limit Line	Over Limit	Detector
(Mark)	(MHz)	(dBμV)	(dB/m)	dB	(dBμV/m)	(dBμV/m)	(dB)	
1	37.42	1.33	12.07	3.75	17.15	40.00	-22.85	QP
2	75.98	18.18	6.64	4.11	28.93	40.00	-11.07	QP
3	105.27	11.08	11.57	4.33	26.98	43.50	-16.52	QP
4	522.72	0.24	17.60	6.25	24.09	46.00	-21.91	QP
5	616.37	3.71	19.29	6.56	29.56	46.00	-16.44	QP
6	935.55	1.69	22.87	7.51	32.07	46.00	-13.93	QP

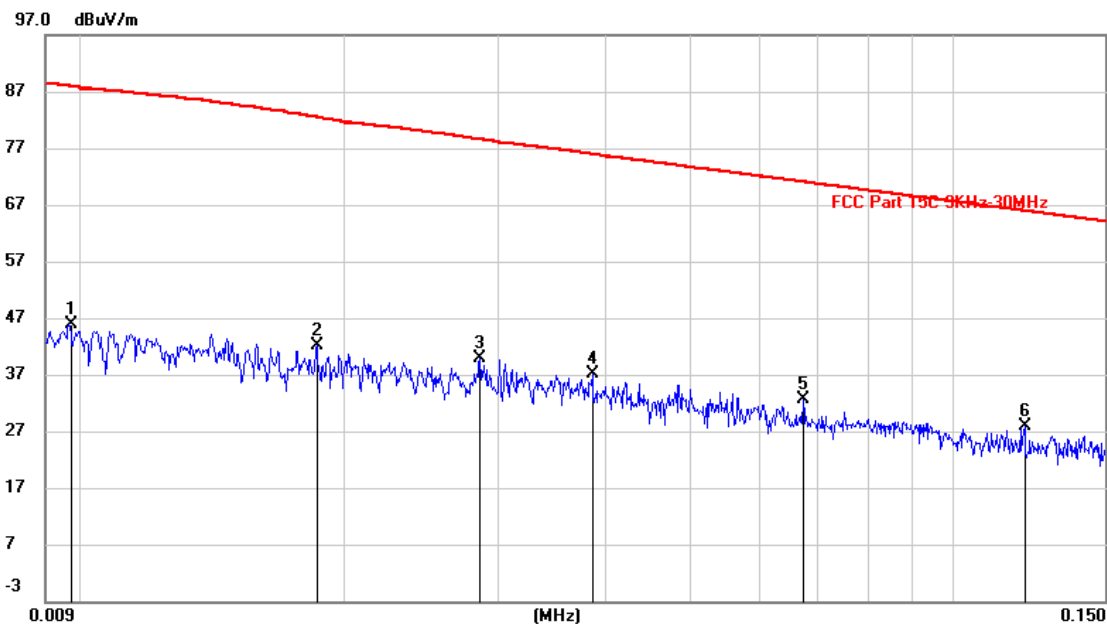
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss.
 2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
 3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto

Note 1: All the channels had been tested, but only the worst data recorded in the report.

7.5. SPURIOUS EMISSIONS BELOW 30M

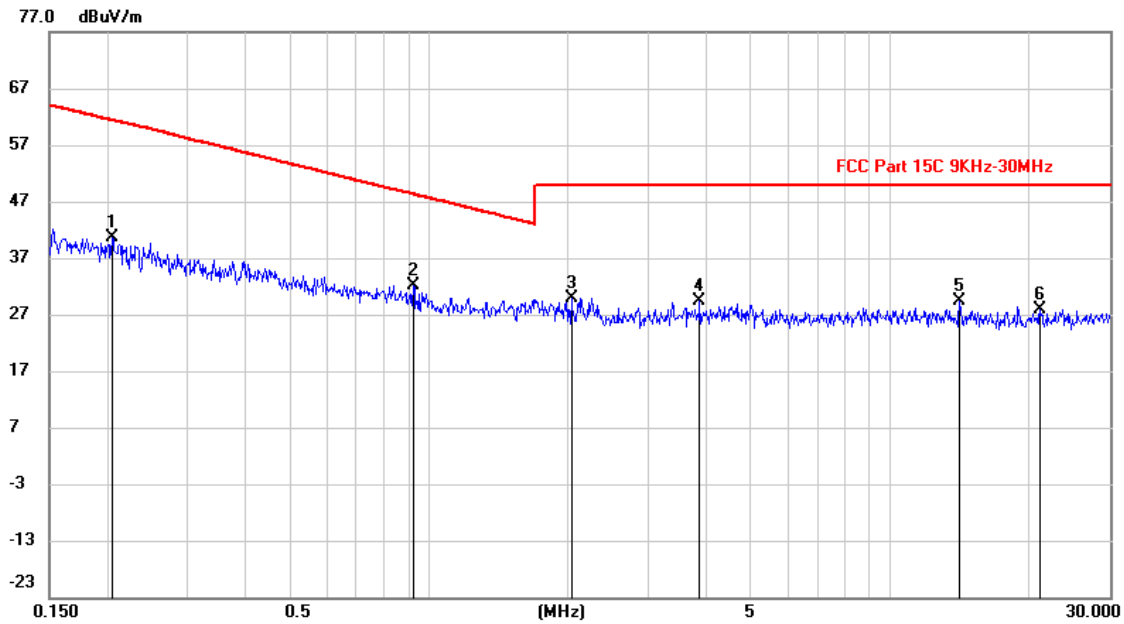
SPURIOUS EMISSIONS Below 30MHz (WORST-CASE CONFIGURATION)

EUT:	FlexNode Line Powered Radio	Polarization :	Horizontal
Test Mode:	Middle Channel - Antenna 1		



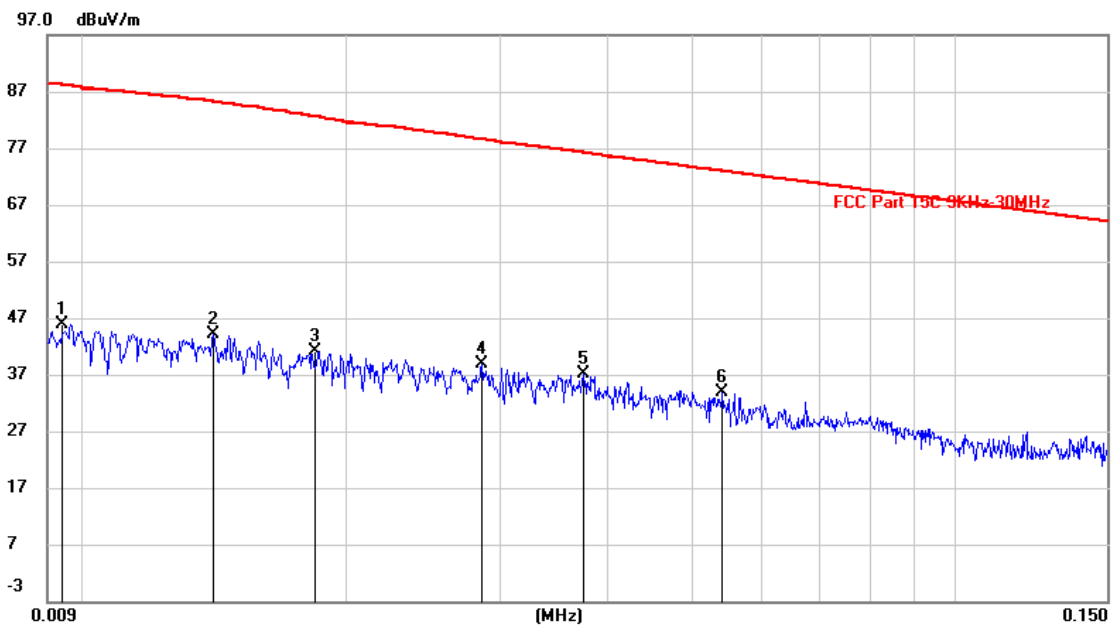
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.0095	25.51	20.25	45.76	87.98	-42.22	QP
2	0.0184	21.88	20.29	42.17	82.54	-40.37	QP
3	0.0285	19.56	20.31	39.87	78.59	-38.72	QP
4	0.0384	16.75	20.31	37.06	75.96	-38.90	QP
5	0.0674	12.21	20.31	32.52	71.05	-38.53	QP
6	0.1211	7.46	20.30	27.76	65.94	-38.18	QP

EUT:	FlexNode Line Powered Radio	Polarization :	Horizontal
Test Mode:	Middle Channel - Antenna 1		



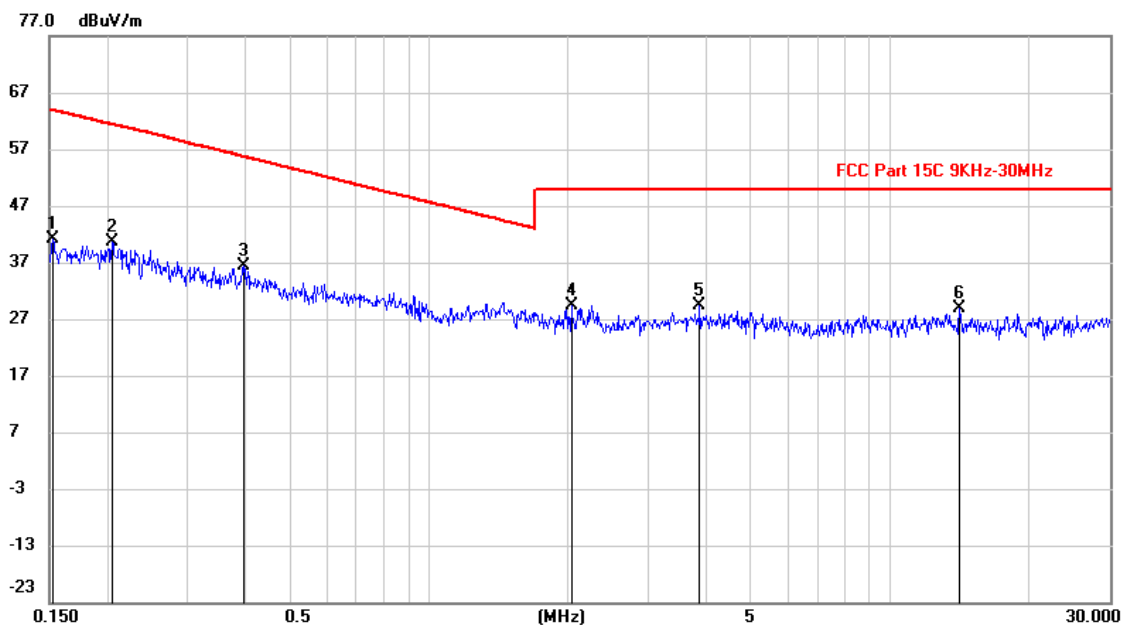
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.2049	20.20	20.36	40.56	61.41	-20.85	QP
2	0.9233	11.82	20.37	32.19	48.31	-16.12	QP
3	2.0440	9.17	20.74	29.91	50.00	-20.09	QP
4	3.8603	8.24	21.04	29.28	50.00	-20.72	QP
5	14.2126	8.41	20.95	29.36	50.00	-20.64	QP
6	21.1472	6.82	21.16	27.98	50.00	-22.02	QP

EUT:	FlexNode Line Powered Radio	Polarization :	Horizontal
Test Mode:	Middle Channel - Antenna 2		



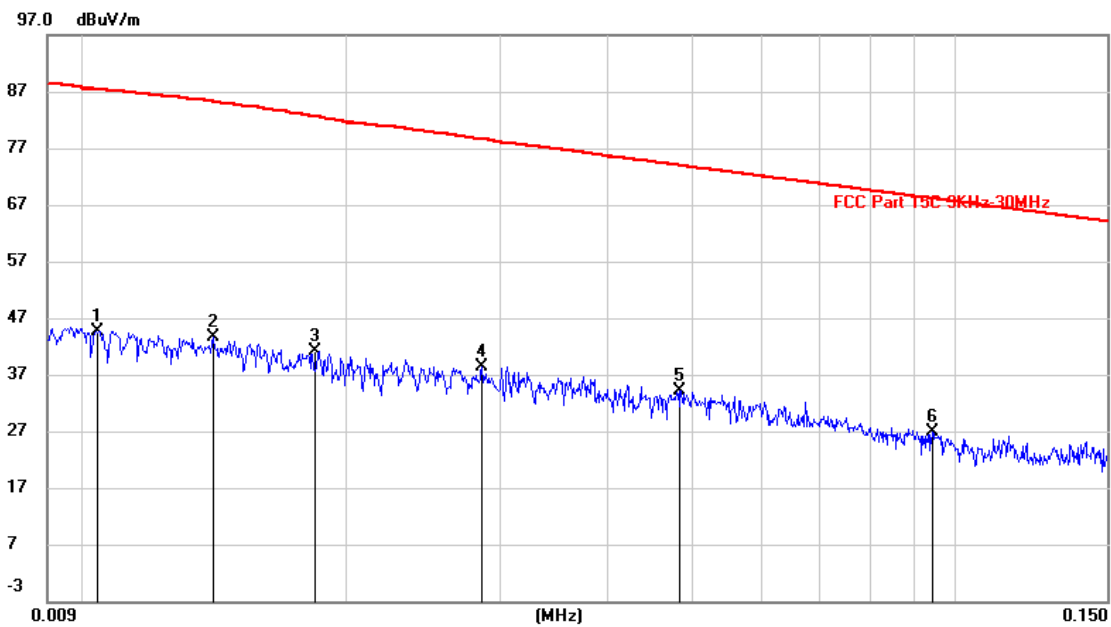
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.0094	25.50	20.26	45.76	88.06	-42.30	QP
2	0.0140	23.97	20.25	44.22	85.19	-40.97	QP
3	0.0183	20.88	20.29	41.17	82.60	-41.43	QP
4	0.0285	18.56	20.31	38.87	78.59	-39.72	QP
5	0.0374	16.74	20.31	37.05	76.21	-39.16	QP
6	0.0539	13.63	20.31	33.94	73.00	-39.06	QP

EUT:	FlexNode Line Powered Radio	Polarization :	Horizontal
Test Mode:	Middle Channel - Antenna 2		



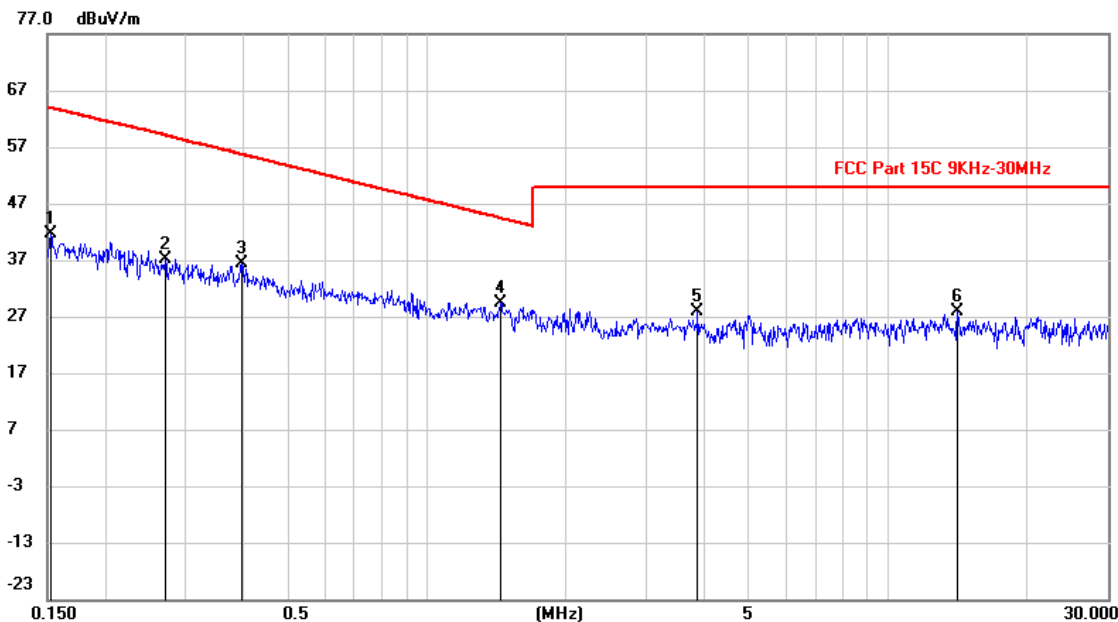
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.1524	20.66	20.42	41.08	63.95	-22.87	QP
2	0.2048	20.20	20.36	40.56	61.41	-20.85	QP
3	0.3955	15.99	20.27	36.26	55.67	-19.41	QP
4	2.0440	8.67	20.74	29.41	50.00	-20.59	QP
5	3.8603	8.24	21.04	29.28	50.00	-20.72	QP
6	14.2126	7.91	20.95	28.86	50.00	-21.14	QP

EUT:	FlexNode Line Powered Radio	Polarization :	Horizontal
Test Mode:	Middle Channel - Antenna 3		



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.0103	24.50	20.21	44.71	87.42	-42.71	QP
2	0.0140	23.42	20.25	43.67	85.19	-41.52	QP
3	0.0183	20.88	20.29	41.17	82.60	-41.43	QP
4	0.0285	18.06	20.31	38.37	78.59	-40.22	QP
5	0.0483	13.90	20.31	34.21	73.95	-39.74	QP
6	0.0945	6.73	20.24	26.97	68.11	-41.14	QP

EUT:	FlexNode Line Powered Radio	Polarization :	Horizontal
Test Mode:	Middle Channel - Antenna 3		



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.1524	21.16	20.42	41.58	63.95	-22.37	QP
2	0.2701	16.93	20.32	37.25	59.11	-21.86	QP
3	0.3955	15.99	20.27	36.26	55.67	-19.41	QP
4	1.4409	8.95	20.53	29.48	44.43	-14.95	QP
5	3.8603	6.74	21.04	27.78	50.00	-22.22	QP
6	14.2126	6.91	20.95	27.86	50.00	-22.14	QP

Note 1: All the channels and polarization had been tested, but only the worst data recorded in the report.

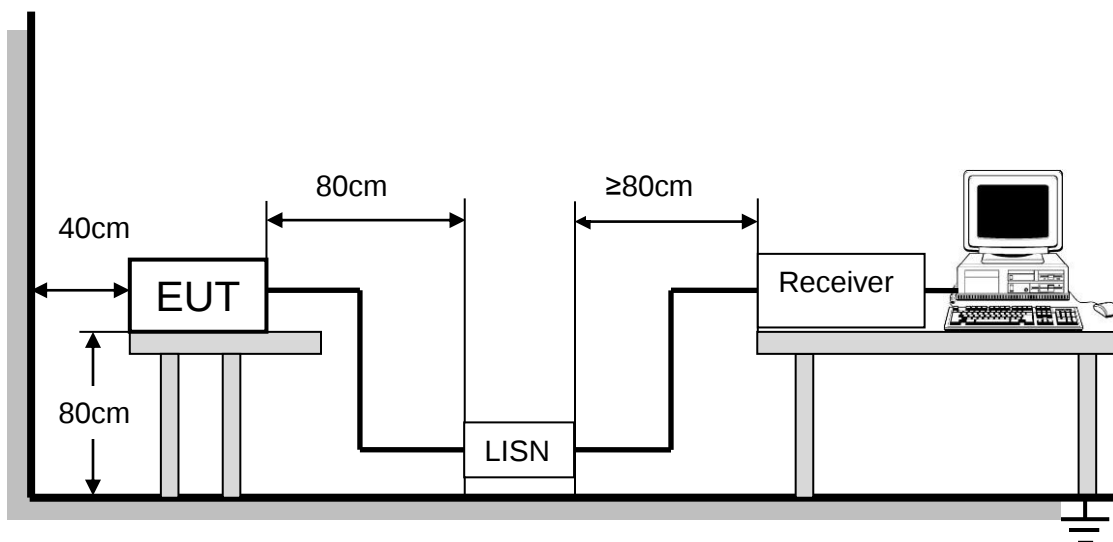
8. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

Please refer to FCC §15.207 (a) and RSS-Gen Clause 8.8

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *
0.50 -5.0	73.00	60.00	56.00	46.00
5.0 -30.0	73.00	60.00	60.00	50.00

TEST SETUP AND PROCEDURE

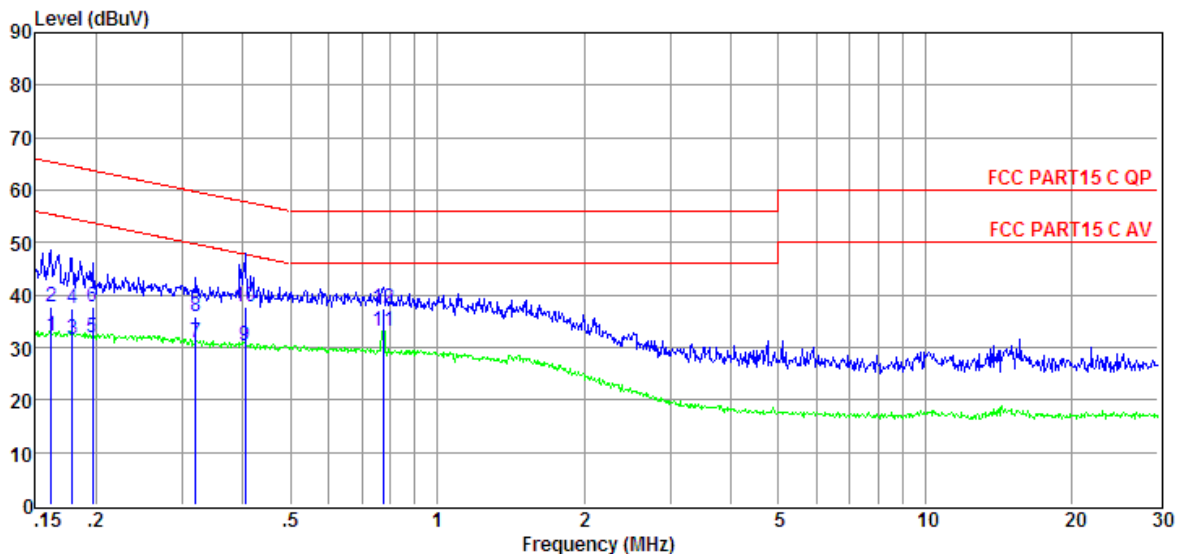


The EUT is put on a table of non-conducting material that is 80cm high. The vertical conducting wall of shielding is located 40cm to the rear of the EUT. The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.). A EMI Measurement Receiver (R&S Test Receiver ESR3) is used to test the emissions from both sides of AC line. According to the requirements in Section 7 and 13 of ANSI C63.4-2014. Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-Peak and average detector mode. The bandwidth of EMI test receiver is set at 9kHz.

The arrangement of the equipment is installed to meet the standards and operating in a manner, which tends to maximize its emission characteristics in a normal application.

TEST RESULTS (WORST-CASE CONFIGURATION)

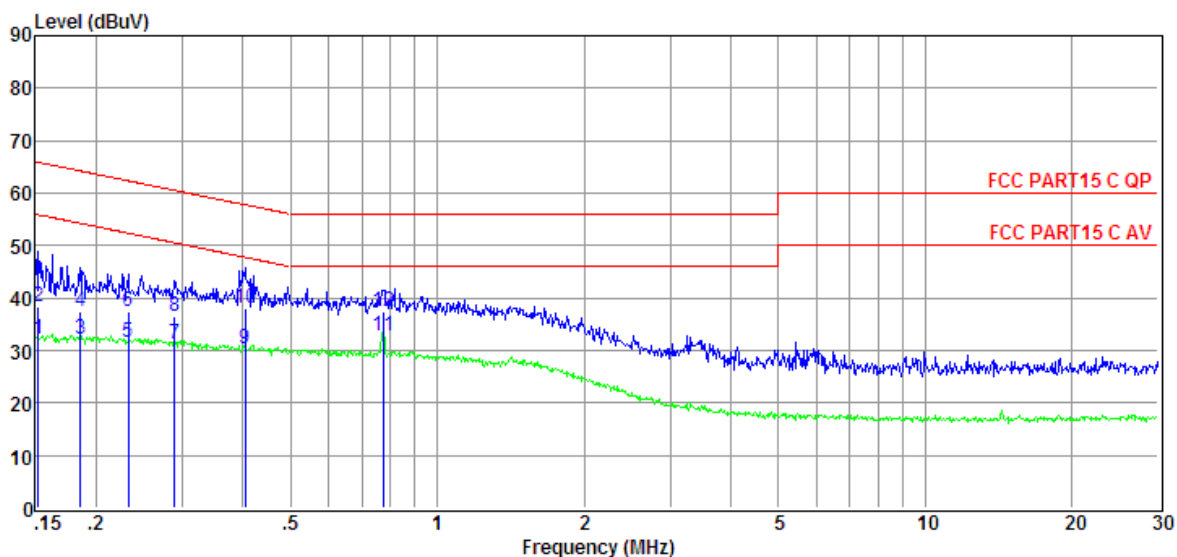
EUT:	FlexNode Line Powered Radio	Phase :	L
Test Mode:	Middle Channel		



Item	Freq.	Read Level	LISN Factor	Cable Loss	Pulse Limiter Factor	Result Level	Limit Line	Over Limit	Detector
(Mark)	(MHz)	(dBμV)	(dB)	(dB)	(dB)	(dBμV)	(dBμV)	(dB)	
1	0.16	12.62	9.61	0.02	9.86	32.11	55.38	-23.27	Average
2	0.16	18.31	9.61	0.02	9.86	37.80	65.38	-27.58	QP
3	0.18	12.18	9.61	0.02	9.86	31.67	54.55	-22.88	Average
4	0.18	17.97	9.61	0.02	9.86	37.46	64.55	-27.09	QP
5	0.20	12.28	9.61	0.02	9.86	31.77	53.76	-21.99	Average
6	0.20	18.33	9.61	0.02	9.86	37.82	63.76	-25.94	QP
7	0.32	11.31	9.61	0.02	9.86	30.80	49.71	-18.91	Average
8	0.32	16.47	9.61	0.02	9.86	35.96	59.71	-23.75	QP
9	0.40	10.68	9.61	0.02	9.86	30.17	47.77	-17.60	Average
10	0.40	18.09	9.61	0.02	9.86	37.58	57.77	-20.19	QP
11	0.78	13.50	9.61	0.03	9.86	33.00	46.00	-13.00	Average
12	0.78	17.94	9.61	0.03	9.86	37.44	56.00	-18.56	QP

- Note: 1. Result Level = Read Level + LISN Factor + Pulse Limiter Factor + Cable loss.
2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 200 Hz (9 kHz—150 kHz), 9 kHz (150 kHz—30 MHz).
4. Step size: 80Hz (0.009MHz-0.15MHz), 4 kHz (0.15MHz-30MHz), Scan time: auto.

EUT:	FlexNode Line Powered Radio	Phase :	N
Test Mode:	Middle Channel		



Item	Freq.	Read Level	LISN Factor	Cable Loss	Pulse Limiter Factor	Result Level	Limit Line	Over Limit	Detector
(Mark)	(MHz)	(dBμV)	(dB)	(dB)	(dB)	(dBμV)	(dBμV)	(dB)	
1	0.15	12.55	9.61	0.02	9.86	32.04	55.87	-23.83	Average
2	0.15	18.71	9.61	0.02	9.86	38.20	65.87	-27.67	QP
3	0.19	12.63	9.61	0.02	9.86	32.12	54.24	-22.12	Average
4	0.19	18.07	9.61	0.02	9.86	37.56	64.24	-26.68	QP
5	0.23	11.98	9.61	0.02	9.86	31.47	52.35	-20.88	Average
6	0.23	17.78	9.61	0.02	9.86	37.27	62.35	-25.08	QP
7	0.29	11.83	9.61	0.02	9.86	31.32	50.54	-19.22	Average
8	0.29	16.89	9.61	0.02	9.86	36.38	60.54	-24.16	QP
9	0.40	10.78	9.61	0.02	9.86	30.27	47.77	-17.50	Average
10	0.40	18.56	9.61	0.02	9.86	38.05	57.77	-19.72	QP
11	0.78	13.35	9.61	0.03	9.86	32.85	46.00	-13.15	Average
12	0.78	17.77	9.61	0.03	9.86	37.27	56.00	-18.73	QP

- Note: 1. Result Level = Read Level + LISN Factor + Pulse Limiter Factor + Cable loss.
 2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Test setup: RBW: 200 Hz (9 kHz—150 kHz), 9 kHz (150 kHz—30 MHz).
 4. Step size: 80Hz (0.009MHz-0.15MHz), 4 kHz (0.15MHz-30MHz), Scan time: auto.

Note: All the modulation and channels had been tested, but only the worst data recorded in the report.

9. ANTENNA REQUIREMENTS

APPLICABLE REQUIREMENTS

Please refer to FCC §15.203

If directional gain of transmitting antennas is greater than 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi. For the fixed point-to-point operation, the power shall be reduced by one dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the FCC rule.

Please refer to FCC §15.247 b (4)

The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

ANTENNA CONNECTOR

EUT has a ceramics antenna without antenna connector.

EUT have two external antennas with an antenna connector.

ANTENNA GAIN

The maximum antenna gain of EUT is 14 dBi.

END OF REPORT