FCC Part 15
EMI TEST REPORT
of

E.U.T. ：Bluetooth Stereo Headphone
Model ：BT3070
FCC ID ：D6XBT3070

for

APPLICANT : TECOM CO., LTD.
ADDRESS : 23, R&D Road 2 Science-Based Industrial Park
Hsin-Chu Taiwan R.O.C.

Test Performed by

ELECTRONICS TESTING CENTER, TAIWAN
NO. 34, LIN 5 , DING FU TSUN, LINKOU HSIANG,
TAIPEI HSIEN, TAIWA, R.O.C.
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Report Number : ET94R-12-090-01

TEST REPORT CERTIFICATION

Applicant	:	TECOM CO., LTD. 23, R&D Road 2 Science-Based Industrial Park Hsin-Chu Taiwan R.O.C.
Manufacture	:	TECOM CO., LTD. 23, R&D Road 2 Science-Based Industrial Park Hsin-Chu Taiwan R.O.C.
Description of Device	:	
a) Type of EUT	:	Bluetooth Stereo Headphone
b) Trade Name	:	TECOM
c) Model No.	:	BT3070
d) Power Supply	:	DC 3.7V; Power from PC
Regulation Applied	:	FCC Rules and Regulations Part 15 Subpart C (2005)

I HEREBY CERTIFY THAT: The data shown in this report were made in accordance with the procedures given in ANSI C63.4, and the energy emitted by the device was founded to be within the limits applicable. I assume full responsibility for accuracy and completeness of these data.

Note: 1. The result of the testing report relate only to the item tested.
2. The testing report shall not be reproduced expect in full, without the written approval of ETC.

Issued Date : Jan. 16, 2006

Test Engineer : Kevin Lee
(Kevin Lee)

Approve & Authorized Signer : Will Yauo
Will Yauo, Manager
EMC Dept. II of ELECTRONICS
TESTING CENTER, TAIWAN

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1 GENERAL INFORMATION

1.1 Product Description

a) Type of EUT : Bluetooth Stereo Headphone

b) Trade Name : TECOM

c) Model No. : BT3070

d) Power Supply : DC 3.7V; Power from PC

1.2 Characteristics of Device

This device is a Bluetooth stereo headphone which provide wireless link to the Bluetooth cell phones.

Bluetooth is a worldwide standard for the wireless exchange of data between two compatible devices. It utilizes short-distance radio link technology and replaces the traditional cable connections to enable wirelesss connections between desktop and laptop computers, cellular phones, scanners, digital cameras, printers, and other devices. You can now transfer files between two computers, dial up to the internet using the host computer's modem or cell phone, or even share a network connection without literally attaching your cables to a device. To put it simply, Bluetooth unplugs all your cables and forget about cable clutter for a change.

1.3 Test Methodology

For Bluetooth Stereo Headphone, both conducted and radiated emissions were performed according to the procedures illustrated in ANSI C63.4 (2003). Other required measurements were illustrated in separate sections of this test report for details.

1.4 Test Facility

The open area test site and conducted measurement facility used to collect the radiated data is located on the roof top of Building at No.34, Lin 5, Ding Fu Tsun, Linkou Hsiang, Taipei Hsien, Taiwan, R.O.C.

This site has been fully described in a report submitted to your office, and accepted in a letter dated June 30, 2006.

2 PROVISIONS APPLICABLE

2.1 Definition

Unintentional radiator:

A device that intentionally generates and radio frequency energy for use within the device, or that sends radio frequency signals by conduction to associated equipment via connecting wiring, but which is not intended to emit RF energy by radiation or induction.

Class A Digital Device:

A digital device which is marketed for use in commercial or business environment; exclusive of a device which is market for use by the general public, or which is intended to be used in the home.

Class B Digital Device :

A digital device which is marketed for use in a residential environment notwithstanding use in a commercial, business of industrial environment. Example of such devices that are marketed for the general public.

Note : A manufacturer may also qualify a device intended to be marketed in a commercial, business, or industrial environment as a Class B digital device, and in fact is encouraged to do so, provided the device complies with the technical specifications for a Class B Digital Device. In the event that a particular type of device has been found to repeatedly cause harmful interference to radio communications, the Commission may classify such a digital device as a Class B Digital Device, Regardless of its intended use.

Intentional radiator:

A device that intentionally generates and emits radio frequency energy by radiation or induction.

2.2 Requirement for Compliance

(1) Conducted Emission Requirement

Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50μH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Frequency MHz	Quasi Peak dBμV	Average dBμV
0.15 - 0.5	66-56*	56-46*
0.5 - 5.0	56	46
5.0 - 30.0	60	50

* Decreases with the logarithm of the frequency

For intentional device, according to §15.207(a) Line Conducted Emission Limits is same as above table.

(2) Radiated Emission Requirement

For unintentional device, according to §15.109(a), except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency MHz	Distance Meters	Radiated dBμV/m	Radiated μV/m
30 - 88	3	40.0	100
88 - 216	3	43.5	150
216 - 960	3	46.0	200
Above 960	3	54.0	500

For intentional device, according to §15.209(a), the general requirement of field strength of radiated emissions from intentional radiators at a distance of 3 meters shall not exceed the above table.

(3) Antenna Requirement

For intentional device, according to §15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

(4) Hopping Channel Separation

According to 15.247(a)(1), frequency hopping system shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

(5) Number of Hopping frequencies used

According to 15.247(a)(1)(iii), frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 non-overlapping channels.

(6) Hopping Channel Bandwidth

According to 15.247(a)(1)(ii), for frequency hopping system operating in the 5725-5850 MHz band, the maximum 20dB bandwidth of the hopping channel is 1MHz.

(7) Dwell Time of each frequency

According to 15.247(a)(1)(iii), for frequency hopping system operating in the 2400-2483.5 band, the average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

(8) Output Power Requirement

According to 15.247(b)(1), for frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt.

For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.

(9) 100 kHz Bandwidth of Frequency Band Edges Requirement

According to 15.247(c), in any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required.

(10) Out-of-Band Conducted Emission Requirement

According to 15.247(c), in any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required.

(11) Peak Power Spectral Density Requirement

According to 15.247(d), for digitally modulated systems, the peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

2.3 Restricted Bands of Operation

Only spurious emissions are permitted in any of the frequency bands listed below :

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42-16.423	399.9-410	4.5-5.15
0.495 - 0.505 **	16.69475 - 16.69525	608-614	5.35-5.46
2.1735 - 2.1905	16.80425 - 16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475 - 156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2655-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3360-4400	Above 38.6
13.36-13.41			

** : Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz

2.4 Labeling Requirement

The device shall bear the following statement in a conspicuous location on the device :

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions : (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

2.5 User Information

The users manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

For a Class B digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual.

The Federal Communications Commission Radio Frequency Interference Statement includes the following paragraph.

This equipment has been tested and found to comply with the limits for a Class B Digital Device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction may cause harmful interference to radio communication. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-- Reorient or relocate the receiving antenna.

-- Increase the separation between the equipment and receiver.

-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

-- Consult the dealer or an experienced radio / TV technician for help.

3 SYSTEM TEST CONFIGURATION

3.1 Justification

For both radiated and conducted emissions below 1 GHz, the system was configured for testing in a typical fashion as a customer would normally use it. The peripherals other than EUT were connected in normally standing by situation. Measurement was performed under the condition that a computer program was exercised to simulate data communication of EUT, and the transmission rate was set to maximum allowed by EUT. Three highest emissions were verified with varying placement of the transmitting antenna connected to EUT to maximize the emission from EUT.

For conducted emissions, only measured on TX and RX operation, for the digital circuits portion also function normally whenever TX or RX is operated. For radiated emissions, whichever RF channel is operated, the digital circuits' function identically. As the reason, measurement of radiated emissions from digital circuits is only performed with channel 11 by transmitting mode.

3.2 Devices for Tested System

Device	Manufacture	Model / FCC ID.	Description
Bluetooth Stereo Headphone*	TECOM CO., LTD.	BT3070/D6XBT3070	----
Notebook PC	Compaq	Presario 2800	1.8m Unshielded AC Power Cord

Remark "*" means equipment under test.

4 RADIATED EMISSION MEASUREMENT

4.1 Applicable Standard

For unintentional radiator, the radiated emission shall comply with §15.109(a).
For intentional radiators, according to §15.247 (a), operation under this provision is limited to frequency hopping and direct sequence spread spectrum, and the out band emission shall be comply with §15.247 (c)

4.2 Measurement Procedure

A. Preliminary Measurement For Portable Devices

For portable devices, the following procedure was performed to determine the maximum emission axis of EUT:

1. With the receiving antenna is H polarization, rotate the EUT in turns with three orthogonal axes to determine the axis of maximum emission.
2. With the receiving antenna is V polarization, rotate the EUT in turns with three orthogonal axes to determine the axis of maximum emission.
3. Compare the results derived from above two steps. So, the axis of maximum emission from EUT was determined and the configuration was used to perform the final measurement.

B. Final Measurement

1. Setup the configuration per figure 1 and 2 for frequencies measured below and above 1 GHz respectively. Turn on EUT and make sure that it is in normal function.

2. For emission frequencies measured below 1 GHz, a pre-scan is performed in a shielded chamber to determine the accurate frequencies of higher emissions will be checked on a open test site. As the same purpose, for emission frequencies measured above 1 GHz, a pre-scan also be performed with a 1 meter measuring distance before final test.

3. For emission frequencies measured below and above 1 GHz, set the spectrum analyzer on a 100 kHz and 1 MHz resolution bandwidth respectively for each frequency measured in step 2.

4. The search antenna is to be raised and lowered over a range from 1 to 4 meters in horizontally polarized orientation. Position the highness when the highest value is indicated on spectrum analyzer, then change the orientation of EUT on test table over a range from 0 ° to 360 ° with a speed as slow as possible, and keep the azimuth that highest emission is indicated on the spectrum analyzer. Vary the antenna position again and record the highest value as a final reading. A RF test receiver is also used to confirm emissions measured.

5. Repeat step 4 until all frequencies need to be measured were complete.
6. Repeat step 5 with search antenna in vertical polarized orientations.
7. Check the three frequencies of highest emission with varying the placement of cables (if any) associated with EUT to obtain the worse case and record the result.

Figure 1 : Frequencies measured below 1 GHz configuration

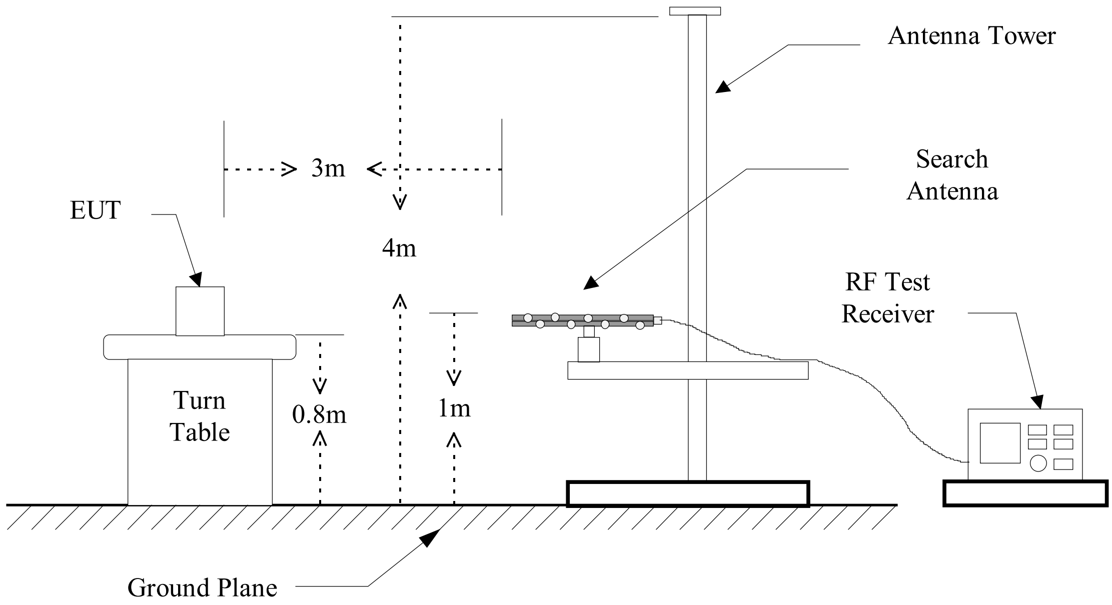
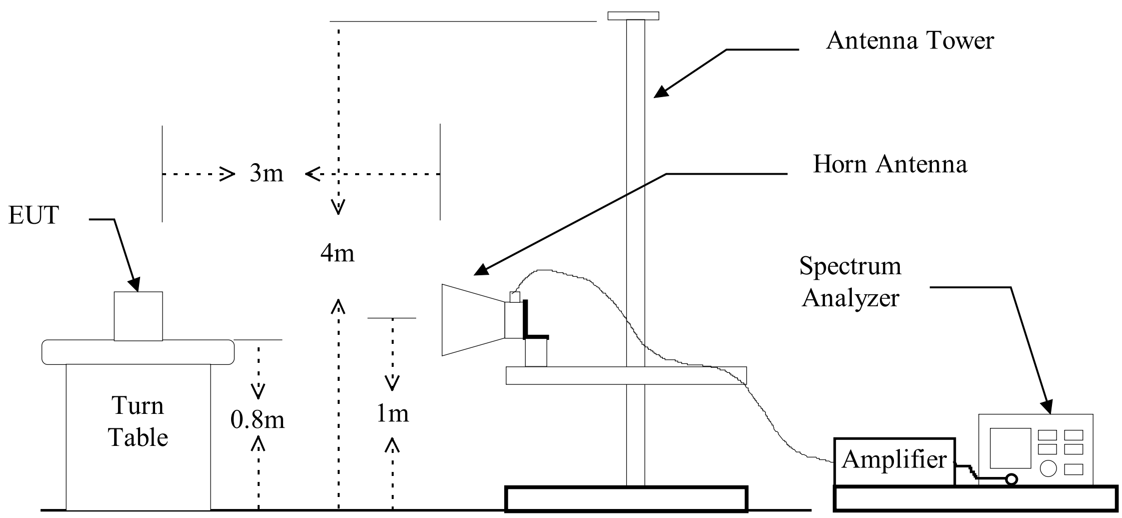


Figure 2 : Frequencies measured above 1 GHz configuration



4.3 Measuring Instrument

The following instrument are used for radiated emissions measurement:

Equipment	Manufacturer	Model No.	Next Cal. Due
Bi-Log Antenna	Schaffner	CBL 6111	2006/03/15
Log-periodic Antenna	EMCO	3146	2006/10/10
Biconical Antenna	EMCO	3110B	2006/10/05
EMI Test Receiver	R & S	ESCI	2006/11/28
Spectrum	R & S	FSP3	2006/10/25
Signal generator	HP	8656B	2006/11/20
Double Ridged Antenna	EMCO	3115	2006/08/18
Amplifier	HP	8449B	2006/09/13
Amplifier	HP	83051A	2006/04/18
Spectrum	R & S	FSP40	2006/07/05
Spectrum	HP	8564E	2006/08/08
Signal generator	HP	HP 83732B	2006/07/03

Measuring instrument setup in measured frequency band when specified detector function is used :

Frequency Band (MHz)	Instrument	Function	Resolution bandwidth	Video Bandwidth
30 to 1000	RF Test Receiver	Quasi-Peak	120 kHz	N/A
	Spectrum Analyzer	Peak	100 kHz	100 kHz
Above 1000	Spectrum Analyzer	Peak	1 MHz	1 MHz
	Spectrum Analyzer	Average	1 MHz	10 Hz

4.4 Radiated Emission Data

4.4.1 Tx Portion

A. Channel Low

Operation Mode : Receiving / Transmitting

Fundamental Frequency : 2402.000 MHz (Local Frequency : 2402.000 MHz)

Test Date : Jan. 10, 2006 Temperature : 25 °C Humidity : 65 %

Frequency (MHz)	Reading (dBuV) H Peak	H Ave	V Peak	V Ave	Factor (dB) Corr.	Result @3m (dBuV/m) Peak	Ave	Limit @3m (dBuV/m) Peak	Ave	Margin (dB)	Table Deg. (Deg.)	Ant. High (m)
* 2402.000	---	---	---	---	-3.1	---	---	74.0	54.0	---	---	---
* 4804.000	---	---	---	---	2.5	---	---	74.0	54.0	---	---	---
* 7206.000	---	---	---	---	5.7	---	---	74.0	54.0	---	---	---
* 9608.000	---	---	---	---	7.2	---	---	74.0	54.0	---	---	---
* 12010.000	---	---	---	---	9.2	---	---	74.0	54.0	---	---	---
4804.000	58.9	45.9	60.0	47.6	2.5	61.4	48.4	74.0	54.0	-5.6	36.0	1.0
7206.000	---	---	---	---	5.7	---	---	74.0	54.0	---	---	---
9608.000	---	---	---	---	7.2	---	---	74.0	54.0	---	---	---
12010.000	---	---	---	---	9.2	---	---	74.0	54.0	---	---	---
14412.000	---	---	---	---	11.5	---	---	74.0	54.0	---	---	---
16814.000	---	---	---	---	11.7	---	---	74.0	54.0	---	---	---
19216.000	---	---	---	---	8.9	---	---	74.0	54.0	---	---	---
21618.000	---	---	---	---	9.7	---	---	74.0	54.0	---	---	---
24020.000	---	---	---	---	10.3	---	---	74.0	54.0	---	---	---

Note :

1. *Item of margin shown in above table refer to average limit.*
2. *It is considered that the results of average comply with average limit when measuring data with a peak function detector meet the average limit. Mark "***" means that Peak result is meet average limit.*
3. *Remark "---" means that the emissions level is too low to be measured.*
4. *Remark "*" means the local oscillator frequency and its harmonics.*
5. *Item "Margin" referred to Average limit while there is only peak result.*
6. *The expanded uncertainty of the radiated emission tests is 3.53 dB.*

B. Channel Middle

Operation Mode : Receiving / Transmitting

Fundamental Frequency : 2441.000 MHz (Local Frequency : 2441.000 MHz)

Test Date : Jan. 10, 2006 Temperature : 25 °C Humidity : 65 %

Frequency	Reading (dBuV)				Factor	Result @3m		Limit @3m		Margin (dB)	Table Deg. (Deg.)	Ant. High
	H		V		(dB)	(dBuV/m)		(dBuV/m)				
(MHz)	Peak	Ave	Peak	Ave	Corr.	Peak	Ave	Peak	Ave			(m)
* 2441.000	---	---	---	---	-2.9	---	---	74.0	54.0	---	---	---
* 4882.000	---	---	---	---	2.7	---	---	74.0	54.0	---	---	---
* 7323.000	---	---	---	---	5.9	---	---	74.0	54.0	---	---	---
* 9764.000	---	---	---	---	7.3	---	---	74.0	54.0	---	---	---
* 12205.000	---	---	---	---	9.3	---	---	74.0	54.0	---	---	---
4882.000	57.7	47.3	59.7	49.3	2.7	62.4	52.0	74.0	54.0	-2.0	28	1.3
7323.000	---	---	---	---	5.9	---	---	74.0	54.0	---	---	---
9764.000	---	---	---	---	7.3	---	---	74.0	54.0	---	---	---
12205.000	---	---	---	---	9.3	---	---	74.0	54.0	---	---	---
14646.000	---	---	---	---	11.6	---	---	74.0	54.0	---	---	---
17087.000	---	---	---	---	13.3	---	---	74.0	54.0	---	---	---
19528.000	---	---	---	---	8.5	---	---	74.0	54.0	---	---	---
21969.000	---	---	---	---	9.9	---	---	74.0	54.0	---	---	---
24410.000	---	---	---	---	10.7	---	---	74.0	54.0	---	---	---

Note :

1. *Item of margin shown in above table refer to average limit.*
2. *It is considered that the results of average comply with average limit when measuring data with a peak function detector meet the average limit. Mark "***" means that Peak result is meet average limit.*
3. *Remark "---" means that the emissions level is too low to be measured.*
4. *Remark "*" means the local oscillator frequency and its harmonics.*
5. *Item "Margin" referred to Average limit while there is only peak result.*
6. *The expanded uncertainty of the radiated emission tests is 3.53 dB.*

C. Channel High

Operation Mode : Receiving / Transmitting

Fundamental Frequency : 2480.000 MHz (Local Frequency : 2480.000 MHz)

Test Date : Jan. 10, 2006 Temperature : 25 °C Humidity : 65 %

Frequency (MHz)	Reading (dBuV) H Peak	H Ave	V Peak	V Ave	Factor (dB) Corr.	Result @3m (dBuV/m) Peak	Ave	Limit @3m (dBuV/m) Peak	Ave	Margin (dB)	Table Deg. (Deg.)	Ant. High (m)
* 2480.000	---	---	---	---	-2.8	---	---	74.0	54.0	---	---	---
* 4960.000	---	---	---	---	2.8	---	---	74.0	54.0	---	---	---
* 7440.000	---	---	---	---	6.1	---	---	74.0	54.0	---	---	---
* 9920.000	---	---	---	---	7.4	---	---	74.0	54.0	---	---	---
* 12400.000	---	---	---	---	9.4	---	---	74.0	54.0	---	---	---
4960.000	55.3	47.5	58.8	48.6	2.8	61.6	51.4	74.0	54.0	-2.6	174	1.2
7440.000	---	---	---	---	6.1	---	---	74.0	54.0	---	---	---
9920.000	---	---	---	---	7.4	---	---	74.0	54.0	---	---	---
12400.000	---	---	---	---	9.4	---	---	74.0	54.0	---	---	---
14880.000	---	---	---	---	11.5	---	---	74.0	54.0	---	---	---
17360.000	---	---	---	---	15.2	---	---	74.0	54.0	---	---	---
19840.000	---	---	---	---	8.6	---	---	74.0	54.0	---	---	---
22320.000	---	---	---	---	10.2	---	---	74.0	54.0	---	---	---
24800.000	---	---	---	---	11.0	---	---	74.0	54.0	---	---	---

Note :

1. *Item of margin shown in above table refer to average limit.*
2. *It is considered that the results of average comply with average limit when measuring data with a peak function detector meet the average limit. Mark "***" means that Peak result is meet average limit.*
3. *Remark "---" means that the emissions level is too low to be measured.*
4. *Remark "*" means the local oscillator frequency and its harmonics.*
5. *Item "Margin" referred to Average limit while there is only peak result.*
6. *The expanded uncertainty of the radiated emission tests is 3.53 dB.*

4.4.2 Radiated Emissions in Restricted Bands

Operation Mode : Receiving /Transmitting

Test Date : Jan. 10, 2006 Temperature : 25 °C Humidity : 65 %

Operation Mode :CH Low Restricted Frequency band : 2310MHz-2390MHz

Frequency (MHz)	Reading (dBuV) H Peak	H Ave	V Peak	V Ave	Factor (dB) Corr.	Result @3m (dBuV/m) Peak	Result Ave	Limit @3m (dBuV/m) Peak	Limit Ave.	Margin (dB)	Table Deg. (Deg.)	Ant. High (m)
2368.210	49.1	---	50.2	---	-3.2	47.0	---	74.0	54.0	-7.0	98	1.5
2375.657	49.2	---	49.3	---	-3.2	46.1	---	74.0	54.0	-7.9	125	1.5

Operation Mode : CH High Restricted Frequency band : 2483.5MHz-2500MHz

Frequency (MHz)	Reading (dBuV) H Peak	H Ave	V Peak	V Ave	Factor (dB) Corr.	Result @3m (dBuV/m) Peak	Result Ave	Limit @3m (dBuV/m) Peak	Limit Ave.	Margin (dB)	Table Deg. (Deg.)	Ant. High (m)
2485.750	46.0	---	46.5	---	-2.8	43.7	---	74.0	54.0	-10.3	178	1.4
2490.127	47.2	---	47.5	---	-2.7	44.8	---	74.0	54.0	-9.2	88	1.4

Note :

1. *Item of margin shown in above table refer to average limit.*
2. *It is considered that the results of average comply with average limit when measuring data with a peak function detector meet the average limit. Mark "***" means that Peak result is meet average limit.*
3. *Remark "---" means that the emissions level is too low to be measured.*
4. *Item "Margin" referred to Average limit while there is only peak result.*
5. *The expanded uncertainty of the radiated emission tests is 3.53 dB.*

4.4.3 Other Emissions

a) Emission frequencies below 1 GHz

1. Operation Mode : Charger

Test Date : Jan. 10, 2006 Temperature : 25 °C Humidity : 60 %

Frequency (MHz)	Ant-Pol H/V	Meter Reading (dBuV)	Corrected Factor (dB)	Result @3m (dBuV/m)	Limit @3m (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (m)
125.770	H	38.7	-11.2	27.5	43.5	-16.0	63	1.0
134.660	V	38.3	-11.2	27.1	43.5	-16.4	21	1.0
177.210	H	35.4	-9.1	26.3	43.5	-17.2	74	1.2
512.330	H	36.8	-4.7	32.1	46.0	-13.9	215	1.0
577.420	H	38.6	-5.2	33.4	46.0	-12.6	121	1.0
594.620	H	40.4	-4.7	35.7	46.0	-10.3	133	1.1

2. Operation Mode : Link

Test Date : Jan. 10, 2006 Temperature : 25 °C Humidity : 60 %

Frequency (MHz)	Ant-Pol H/V	Meter Reading (dBuV)	Corrected Factor (dB)	Result @3m (dBuV/m)	Limit @3m (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (m)
131.400	V	39.5	-11.4	28.1	43.5	-15.4	312	1.1
141.720	V	36.9	-10.7	26.2	43.5	-17.3	24	1.1
193.210	V	35.1	-8.0	27.1	43.5	-16.4	34	1.5
438.200	V	35.8	-5.6	30.2	46.0	-15.8	162	1.5
516.400	V	38.9	-4.8	34.1	46.0	-11.9	233	1.7
632.500	V	39.4	-3.2	36.2	46.0	-9.8	215	1.7

Note :

1. Remark "---" means that the emissions level is too low to be measured.

2. The expanded uncertainty of the radiated emission tests is 3.53 dB.

b) Emission frequencies above 1 GHz

Radiated emission frequencies above 1 GHz to 25 GHz were too low to be measured with a pre-amplifier of 35 dB.

4.5 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor, High Pass Filter Loss (if used) and Cable Loss, and subtracting the Amplifier Gain (if any) from the measured reading. The basic equation calculation is as follows:

Result = Reading + Corrected Factor

where Corrected Factor

= Antenna FACTOR + Cable Loss + High Pass Filter Loss - Amplifier Gain

4.6 Photos of Radiation Measuring Setup

(Mode: Charge)

(Mode: Link)

5 CONDUCTED EMISSION MEASUREMENT

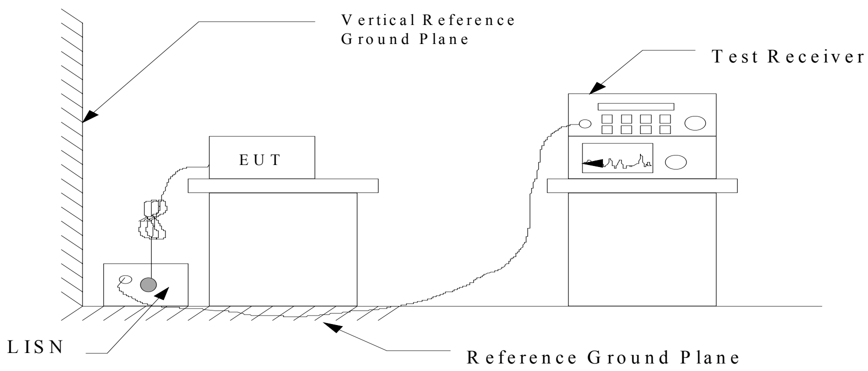
5.1 Standard Applicable

For unintentional and intentional device, Line Conducted Emission Limits are in accordance to 15.107(a) and 15.207(a) respectively.

5.2 Measurement Procedure

1. Setup the configuration per figure 3.
2. A preliminary scan with a spectrum monitor is performed to identify the frequency of emission that has the highest amplitude relative to the limit by operating the EUT in selected modes of operation, typical cable positions, and with a typical system configuration.
3. Record the 6 or 8 highest emissions relative to the limit.
4. Measure each frequency obtained from step 3 by a test receiver set on quasi peak detector function, and then record the accuracy frequency and emission level. If all emissions measured in the specified band are attenuated more than 20 dB from the limit, this step would be ignored, and the peak detector function would be used.
5. Confirm the highest three emissions with variation of the EUT cable configuration and record the final data.
6. Repeat all above procedures on measuring each operation mode of EUT.

Figure 3 : Conducted emissions measurement configuration



5.3 Conducted Emission Data

Operation Mode : Charge

Test Date : Jan. 11, 2005 Temperature : 25 °C Humidity : 60 %

Freq. (MHz)	**Meter Reading** (dB μ V)				**Factor** (dB)	**Result** (dB μ V)				**Limit** (dB μ V)		**Margin** (dB μ V)	
	Q.P Value		AVG. Value			Q.P Value		AVG. alue		QP.	AVG.	QP.	AVG.
	N	L1	N	L1		N	L1	N	L1				
0.216	50.7	46.4	----	----	0.2	50.9	46.6	----	----	63.0	53.0	-12.1	----
0.247	30.4	32.5	----	----	0.2	30.6	32.7	----	----	61.9	51.9	-29.1	----
0.333	40.8	39.5	----	----	0.3	41.1	39.8	----	----	59.4	49.4	-18.3	----
0.431	34.2	26.7	----	----	0.3	34.5	27.0	----	----	57.2	47.2	-22.7	----
0.442	37.7	38.3	----	----	0.3	38.0	38.6	----	----	57.0	47.0	-18.4	----
0.656	36.0	24.9	----	----	0.3	36.3	25.2	----	----	56.0	46.0	-19.7	----

Note : 1. Please see appendix 1 for Plotted Data

2. The expanded uncertainty of the conducted emission tests is 2.45 dB.

5.4 Result Data Calculation

The result data is calculated by adding the LISN Factor to the measured reading. The basic equation with a sample calculation is as follows:

RESULT = READING + LISN FACTOR

Assume a receiver reading of 22.5 dBμV is obtained, and LISN Factor is 0.1 dB, then the total of disturbance voltage is 22.6 dBμV.

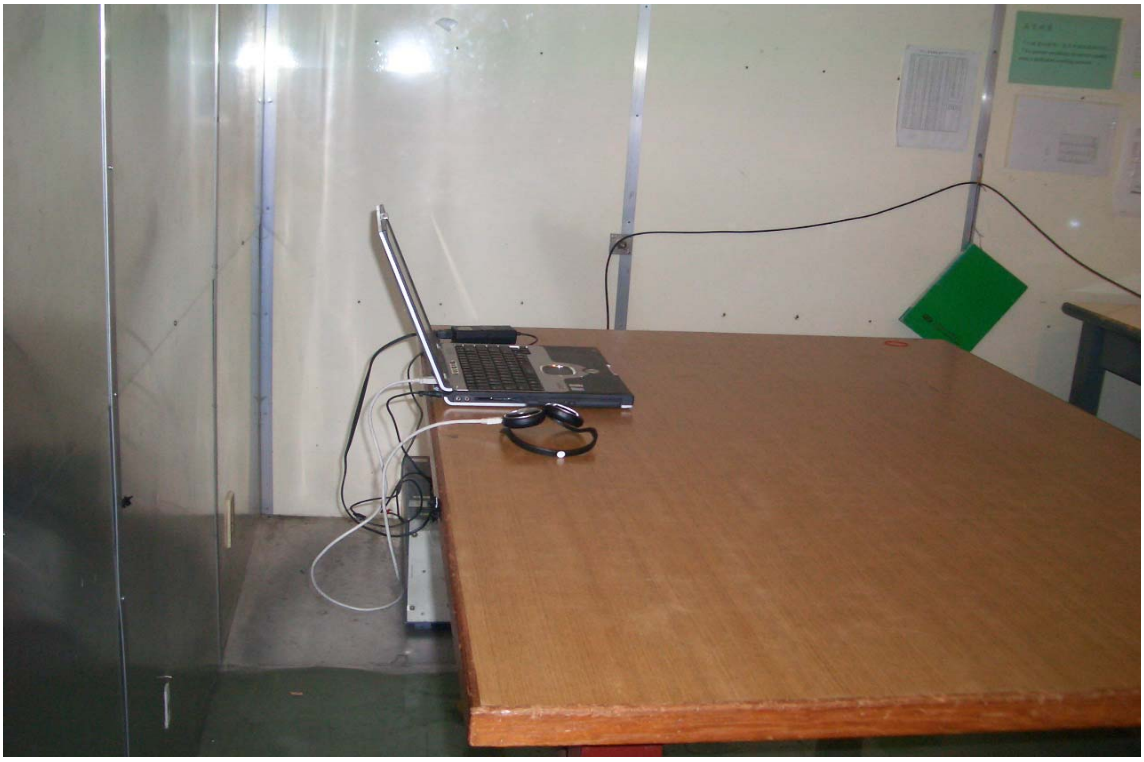
RESULT = 22.5 + 0.1 = 22.6 dBμV
Level in μV = Common Antilogarithm[(22.6 dBμV)/20]
= 13.48 μV

5.5 Conducted Measurement Equipment

The following test equipment are used during the conducted test.

Equipment	Manufacturer	Model No.	Nest Cal. Date
EMI Test Receiver	Rohde & Schwarz	ESCS 30	2006/12/22
LISN	Rohde & Schwarz	ESH2-Z5	2006/09/11
LISN	EMCO	3825/2	2006/07/03
Shielded Room	Riken	----	N/A
Monitor	IBM	E54	N/A
Printer	HP	LASERJET 1000	N/A
Computer	ACER	Veriton 7500G	N/A

5.6 Photos of Conduction Measuring Setup



6 ANTENNA REQUIREMENT

6.1 Standard Applicable

For intentional device, according to 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

6.2 Antenna Construction

The antenna is permanently mounted on RF Board, no consideration of replacement.
Please see photos submitted in Exhibit B.

7 HOPPING CHANNEL SEPARATION

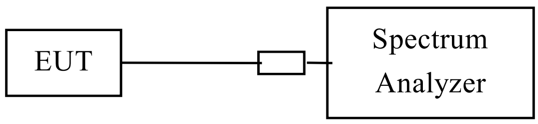
7.1 Standard Applicable

According to 15.247(a)(1), frequency hopping system shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

7.2 Measurement Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT as shown in figure 4 without connection to measurement instrument. Turn on the EUT and connect it to measurement instrument. The EUT must have its hopping function enabled. Then set it to any one convenient frequency within its operating range.
3. Use the following spectrum analyzer settings:
   Span = wide enough to capture the peaks of two adjacent channels
   Resolution (or IF) Bandwidth (RBW) ≥ 1% of the span
   Video (or Average) Bandwidth (VBW) ≥ RBW
   Sweep = auto
   Detector function = peak
   Trace = max hold
4. Allow the trace to stabilize. Use the marker-delta function to determine the separation between the peaks of the adjacent channels. Plot the result on the screen of spectrum analyzer.
5. Repeat above procedures until all frequencies measured were complete.

Figure 4 : Measurement configuration.



7.3 Measurement Equipment

Equipment	Manufacturer	Model No.	Next Cal. Due
Spectrum Analyzer	Rohde & Schwarz	FSP40	2006/07/05
Attenuator	Weinschel Engineering	1	N//A

7.4 Measurement Data

Test Date : Jan. 10, 2006 Temperature : 20 °C Humidity : 65 %

a) Channel Low : Adjacent Hopping Channel Separation is 1004 kHz
b) Channel Middle : Adjacent Hopping Channel Separation is 1004 kHz
c) Channel High : Adjacent Hopping Channel Separation is 1004 kHz

Note : 1. Please see appendix 2 for Plotted Data
2. The expanded uncertainty of the hopping channel separation tests is 2dB.

8 NUMBER OF HOPPING FREQUENCY USED

8.1 Standard Applicable

According to 15.247(a)(1)(iii), frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 non-overlapping channels.

8.2 Measurement Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT as shown in figure 4 without connection to measurement instrument. Turn on the EUT and connect it to measurement instrument. The EUT must have its hopping function enabled.
3. Use the following spectrum analyzer settings:
   Span = the frequency band of operation
   RBW ≥ 1% of the span
   VBW ≥ RBW
   Sweep = auto
   Detector function = peak
   Trace = max hold
4. Allow the trace to stabilize. Plot the result on the screen of spectrum analyzer.
5. Repeat above procedures until all frequencies measured were complete.

8.3 Measurement Equipment

Equipment	Manufacturer	Model No.	Next Cal. Due
Spectrum Analyzer	Rohde & Schwarz	FSP40	2006/07/05
Attenuator	Weinschel Engineering	1	N/A

8.4 Measurement Data

Test Date : Jan. 10, 2006 Temperature : 20 °C Humidity : 65 %

There are 79 hopping frequencies used.

Note : 1. Please see appendix 3 for Plotted Data

2. The expanded uncertainty of umber of hopping frequency used tests is 2dB.

9 CHANNEL BANDWIDTH

9.1 Standard Applicable

According to 15.247(a)(1), Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW. The system shall hop to channel frequencies that are selected at the system hopping rate from a pseudorandomly ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

9.2 Measurement Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT as shown in figure 4 without connection to measurement instrument. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range.
3. Use the following spectrum analyzer settings:
   Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hopping channel
   RBW ≥ 1% of the 20 dB bandwidth
   VBW ≥ RBW
   Sweep = auto
   Detector function = peak
   Trace = max hold
4. Allow the trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission. Use the marker-delta function to measure 20 dB down one side of the emission. Reset the marker-delta function, and move the marker to the other side of the emission, until it is (as close as possible to) even with the reference marker level. The marker-delta reading at this point is the 20 dB bandwidth of the emission. Plot the result on the screen of spectrum analyzer.
5. Repeat above procedures until all frequencies measured were complete.

9.3 Measurement Equipment

Equipment	Manufacturer	Model No.	Next Cal. Due
Spectrum Analyzer	Rohde & Schwarz	FSP40	2006/07/05
Attenuator	Weinschel Engineering	1	N/A

9.4 Measurement Data

Test Date : Jan. 10, 2006 Temperature : 20 °C Humidity : 65 %

a) Channel Low : Channel Bandwidth is 284 kHz
b) Channel Middle : Channel Bandwidth is 280 kHz
c) Channel High : Channel Bandwidth is 288 kHz

Note : 1. Please see appendix 4 for Plotted Data
2. The expanded uncertainty ofchannel bandwidth tests is 2dB.

10 DWELL TIME ON EACH CHANNEL

10.1 Standard Applicable

According to 15.247(a)(1)(iii), for frequency hopping system operating in the 2400-2483.5 band, the average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

10.2 Measurement Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT as shown in figure 4 without connection to measurement instrument. Turn on the EUT and connect it to measurement instrument. The EUT must have its hopping function enabled.
3. Use the following spectrum analyzer settings:
   Span = zero span, centered on a hopping channel
   RBW = 1 MHz
   VBW ≥ RBW
   Sweep = as necessary to capture the entire dwell time per hopping channel
   Detector function = peak
   Trace = max hold
4. Use the marker-delta function to determine the dwell time. Plot the result on the screen of spectrum analyzer.
5. Repeat above procedures until all frequencies measured were complete.

10.3 Measurement Equipment

Equipment	Manufacturer	Model No.	Next Cal. Due
Spectrum Analyzer	Rohde & Schwarz	FSP40	2006/07/05
Attenuator	Weinschel Engineering	1	N/A

10.4 Measurement Data

Test Date : Jan. 10, 2006 Temperature : 20 °C Humidity : 65 %

Period = 0.4(seconds) x 79(channels) = 31.6 seconds

A. DH1 Mode

The Bluetooth system hops at a rate of 1600 times per second. This means there are 1600 timeslots in one second. The DH1 data rate operates on a one-slot transmission and one-slot receiving basis. Thus there are 1600/(1+1) = 800 transmissions per second. In one period for each particular channel there are 10.13 x 31.6 = 320.1 times of transmissions.

a) Channel Low : the dwell time is 0.475 ms x 320.1= 152.047 ms
b) Channel Middle : the dwell time is 0.475 ms x 320.1= 152.047 ms
c) Channel High : the dwell time is 0.475 ms x 320.1= 152.047 ms

The maximum time of occupancy for a particular channel is 152.047ms in any 31.6 second period, which is less than the 400ms allowed by the rules; therefore, it meets the requirements of this section.

B. DH3 Mode

The Bluetooth system hops at a rate of 1600 times per second. This means there are 1600 timeslots in one second. The DH3 data rate operates on a three-slot transmission and one-slot receiving basis. Thus there are 1600/(3+1) = 400 transmissions per second. In one period for each particular channel there are 5.06 x 31.6 = 159.9 times of transmissions.

a) Channel Low : the dwell time is 1.74 ms x 159.9= 278.226 ms
b) Channel Middle : the dwell time is 1.74 ms x 159.9= 278.226 ms
c) Channel High : the dwell time is 1.73 ms x 159.9= 276.627 ms

The maximum time of occupancy for a particular channel is 278.226 ms in any 31.6 second period, which is less than the 400 ms allowed by the rules; therefore, it meets the requirements of this section.

C. DH5 Mode

The Bluetooth system hops at a rate of 1600 times per second. This means there are 1600 timeslots in one second. The DH5 data rate operates on a five-slot transmission and one-slot receiving basis. Thus there are 1600/(5+1) = 266.7 transmissions per second. In one period for each particular channel there are 3.38 x 31.6 = 106.81 times of transmissions.

a) Channel Low : the dwell time is 3.12 ms x 106.81= 333.247 ms
b) Channel Middle : the dwell time is 3.12 ms x 106.81= 333.247 ms
c) Channel High : the dwell time is 3.12 ms x 106.81= 333.247 ms

The maximum time of occupancy for a particular channel is 320.430 ms in any 31.6 second period, which is less than the 400 ms allowed by the rules; therefore, it meets the requirements of this section.

Note : 1. Please see appendix 5 for Plotted Data

2. The expanded uncertainty of dwell time on each channel tests is 2dB.

11 OUTPUT POWER MEASUREMENT

11.1 Standard Applicable

According to 15.247(b)(1), for frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt.
For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.

11.2 Measurement Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT as shown in figure 4 without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range and make sure the instrument is operated in its linear range.
3. Use the following spectrum analyzer settings:
   Span = approximately 5 times the 20 dB bandwidth, centered on a hopping channel
   RBW > the 20 dB bandwidth of the emission being measured
   VBW ≥ RBW
   Sweep = auto
   Detector function = peak
   Trace = max hold
4. Allow the trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission. The indicated level is the peak output power. Plot the result on the screen of spectrum analyzer.
5. Repeat above procedures until all frequencies measured were complete.

11.3 Measurement Equipment

Equipment	Manufacturer	Model No.	Next Cal. Due
Spectrum Analyzer	Rohde & Schwarz	FSP40	2006/07/05
Attenuator	Weinschel Engineering	1	N/A

11.4 Measurement Data

Test Date : Jan. 10, 2006 Temperature : 20 °C Humidity : 65 %

a) Channel Low : Output Peak Power is -1.31 dBm = **0.740** mW
b) Channel Middle : Output Peak Power is 0.26 dBm = **1.062** mW
c) Channel High : Output Peak Power is 0.43 dBm = **0.906** mW

Note : 1. Please see appendix 6 for Plotted Data
2. The expanded uncertainty of output power measurement tests is 2dB.

12 100 kHz BANDWIDTH OF BAND EDGES MEASUREMENT

12.1 Standard Applicable

According to 15.247(c), in any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required.

12.2 Measurement Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT as shown in figure 4 without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range and make sure the instrument is operated in its linear range.
3. Use the following spectrum analyzer settings:

   Span = wide enough to capture the peak level of the emission operating on the channel closest to the bandedge, as well as any modulation products which fall outside of the authorized band of operation

   RBW ≥ 1% of the span

   VBW ≥ RBW

   Sweep = auto

   Detector function = peak

   Trace = max hold
4. Allow the trace to stabilize. Set the marker on the emission at the bandedge, or on the highest modulation product outside of the band, if this level is greater than that at the bandedge. Enable the marker-delta function, then use the marker-to-peak function to move the marker to the peak of the in-band emission. Plot the result on the screen of spectrum analyzer.
5. Repeat above procedures until all measured frequencies were complete.

12.3 Measurement Equipment

Equipment	Manufacturer	Model No.	Next Cal. Due
Spectrum Analyzer	Rohde & Schwarz	FSP40	2006/07/05
Attenuator	Weinschel Engineering	1	N/A

12.4 Measurement Data

Test Date : Jan. 10, 2006 Temperature : 20 °C Humidity : 65 %

a) Lower Band Edge : All emissions in this 100kHz bandwidth are attenuated more than 20dB from the carrier.

b) Upper Band Edge : All emissions in this 100kHz bandwidth are attenuated more than 20dB from the carrier.

Note : 1. Please see appendix 7 for Plotted Data

2. The expanded uncertainty of the 100 KHz bandwidth of band edges tests is 1000Hz.

13 OUT-OF-BAND CONDUCTED EMISSION MEASUREMENT

13.1 Standard Applicable

According to 15.247(c), in any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required.

13.2 Measurement Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT as shown in figure 4 without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range and make sure the instrument is operated in its linear range.
3. Use the following spectrum analyzer settings:

   Span = wide enough to capture the peak level of the in-band emission and all spurious emissions (e.g., harmonics) from the lowest frequency generated in the EUT up through the 10th harmonic. Typically, several plots are required to cover this entire span.

   RBW = 100 kHz

   VBW ≥ RBW

   Sweep = auto

   Detector function = peak

   Trace = max hold.
4. Allow the trace to stabilize. Set the marker on the peak of any spurious emission recorded. Plot the result on the screen of spectrum analyzer.
5. Repeat above procedures until all measured frequencies were complete.

13.3 Measurement Equipment

Equipment	Manufacturer	Model No.	Next Cal. Due
Spectrum Analyzer	Rohde & Schwarz	FSP40	2006/07/05
Attenuator	Weinschel Engineering	1	N/A

13.4 Measurement Data

Mode : Low Channel

Test Date : Jan. 10, 2006 Temperature : 20 °C Humidity : 65 %

a) 1 GHz to 25 GHz frequency band: All emissions are attenuated more than 20dB from the carrier.

Mode : Mid Channel

Test Date : Jan. 10, 2006 Temperature : 20 °C Humidity : 65 %

a) 1 GHz to 25 GHz frequency band: All emissions are attenuated more than 20dB from the carrier.

Mode : Hi Channel

Test Date : Jan. 10, 2006 Temperature : 20 °C Humidity : 65 %

a) 1 GHz to 25 GHz frequency band: All emissions are attenuated more than 20dB from the carrier.

Note : 1. Please see appendix 8 for Plotted Data

2. The expanded uncertainty of the out-of-band conducted emission tests is 2dB.

14 PEAK POWER SPECTRAL DENSITY MEASUREMENT

14.1 Standard Applicable

According to 15.247(d), for digitally modulated systems, the peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

14.2 Measurement Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT as shown in figure 4 without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set EUT to any one measured frequency within its operating range and make sure the instrument is operated in its linear range.
3. Use the following spectrum analyzer settings:
   Span = 300 kHz, centered on highest level appearing on spectral display
   RBW = 3 kHz
   VBW ≥ RBW
   Sweep = 100 s
   Detector function = peak
   Trace = max hold
4. Allow the trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission. Plot the result on the screen of spectrum analyzer.
5. Repeat above procedures until all measured frequencies were complete.

14.3 Measurement Equipment

Equipment	Manufacturer	Model No.	Next Cal. Due
Spectrum Analyzer	Rohde & Schwarz	FSP40	2006/07/05
Attenuator	Weinschel Engineering	1	N/A
Plotter	Hewlett-Packard	7440A	N/A

14.4 Measurement Data

Test Date : Jan. 10, 2006 Temperature : 25 °C Humidity : 65 %

a) Channel Low : Maximun Power Density of 3 kHz Bandwidth is –11.53dBm

b) Channel Middle : Maximun Power Density of 3 kHz Bandwidth is –10.37dBm

c) Channel High : Maximun Power Density of 3 kHz Bandwidth is –11.86dBm

Note : 1. Please see appendix 9 for Plotted Data

2. The expanded uncertainty of the power density tests is 2dB.

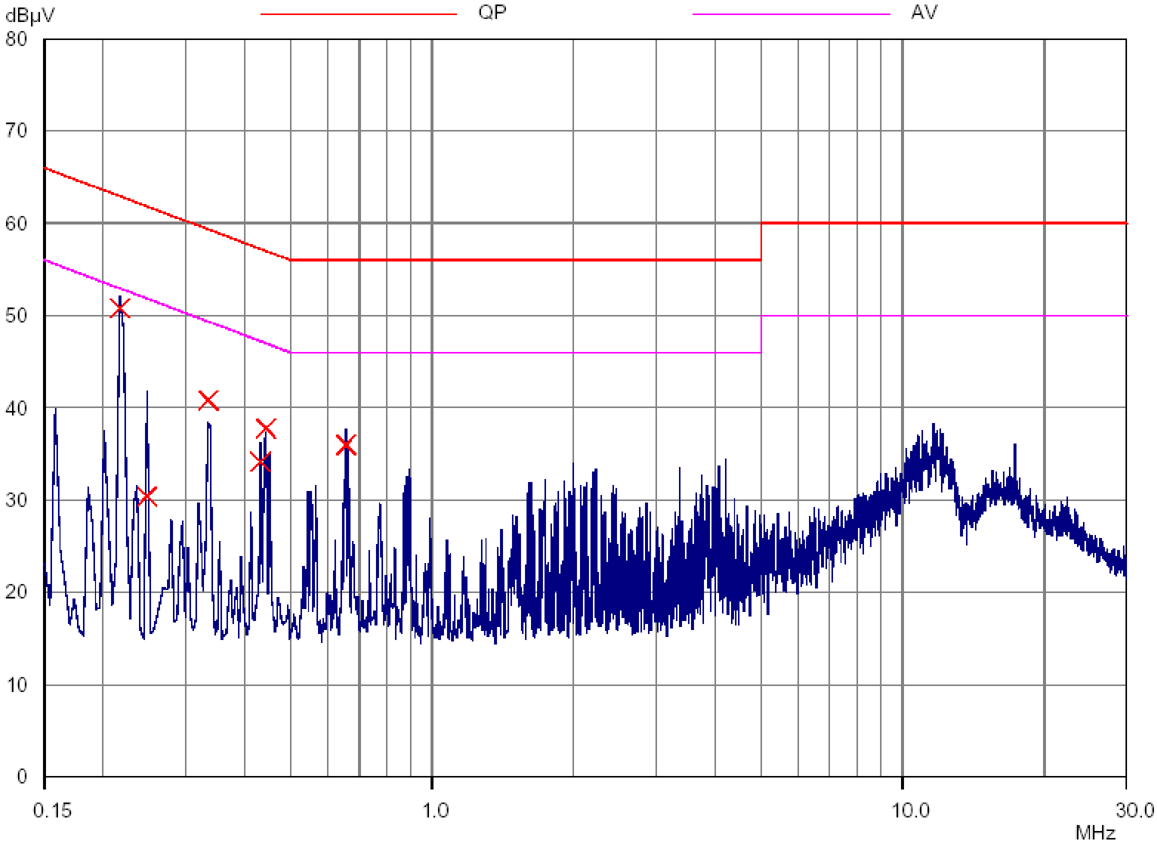
Appendix 1 : Ploted Datas of Power Line Conducted Emissions

CONDUCTION EMISSION TEST

Peak Value

EUT:	BT3070
Manuf:	
Op Cond:	
Operator:	
Test Spec:	
Comment:	N

Final Measurement:	Detector:	X QP
	Meas Time:	1sec
	Peaks:	8
	Acc Margin:	25 dB

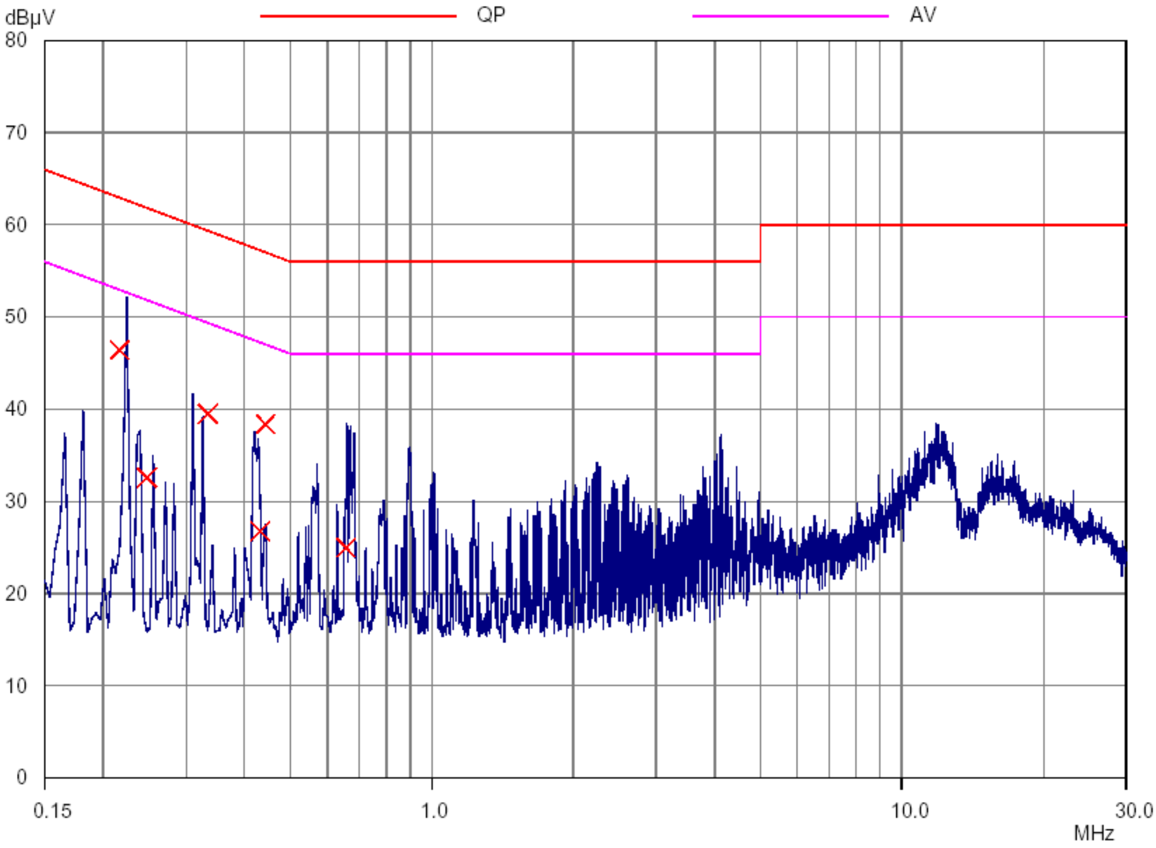


CONDUCTION EMISSION TEST

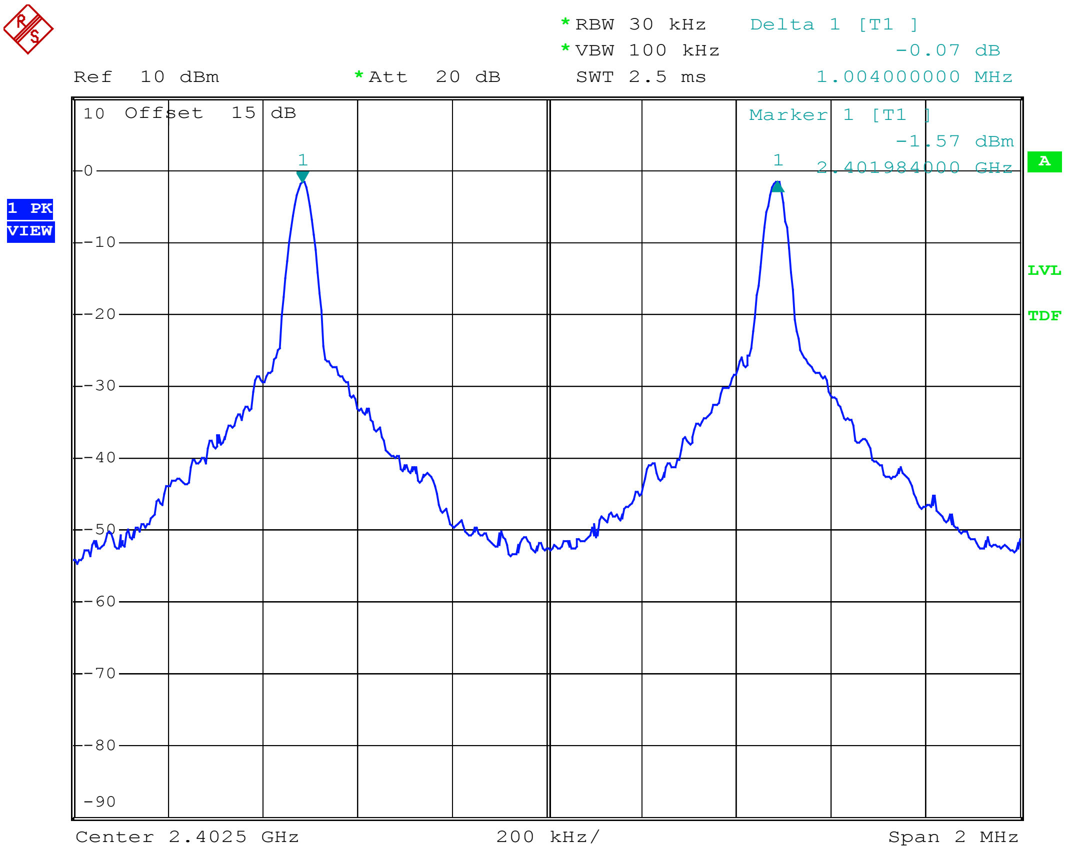
Peak Value

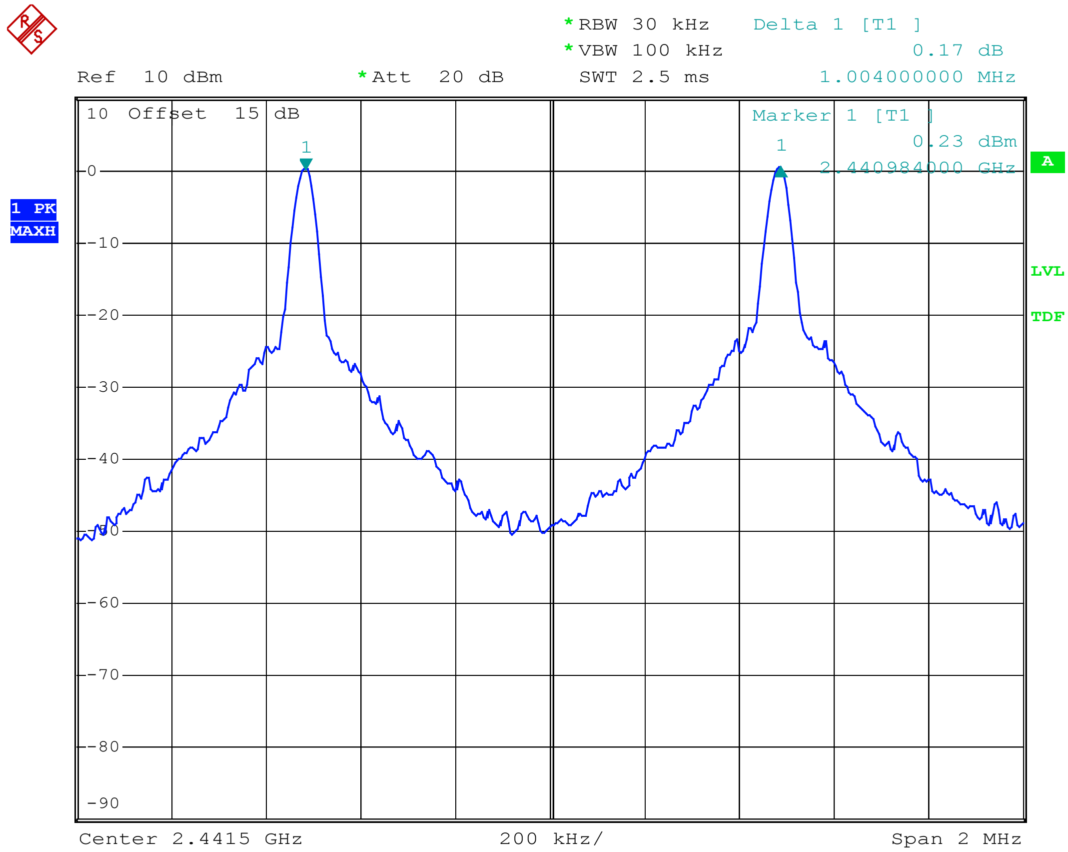
EUT:	BT3070
Manuf:	
Op Cond:	
Operator:	
Test Spec:	
Comment:	L1

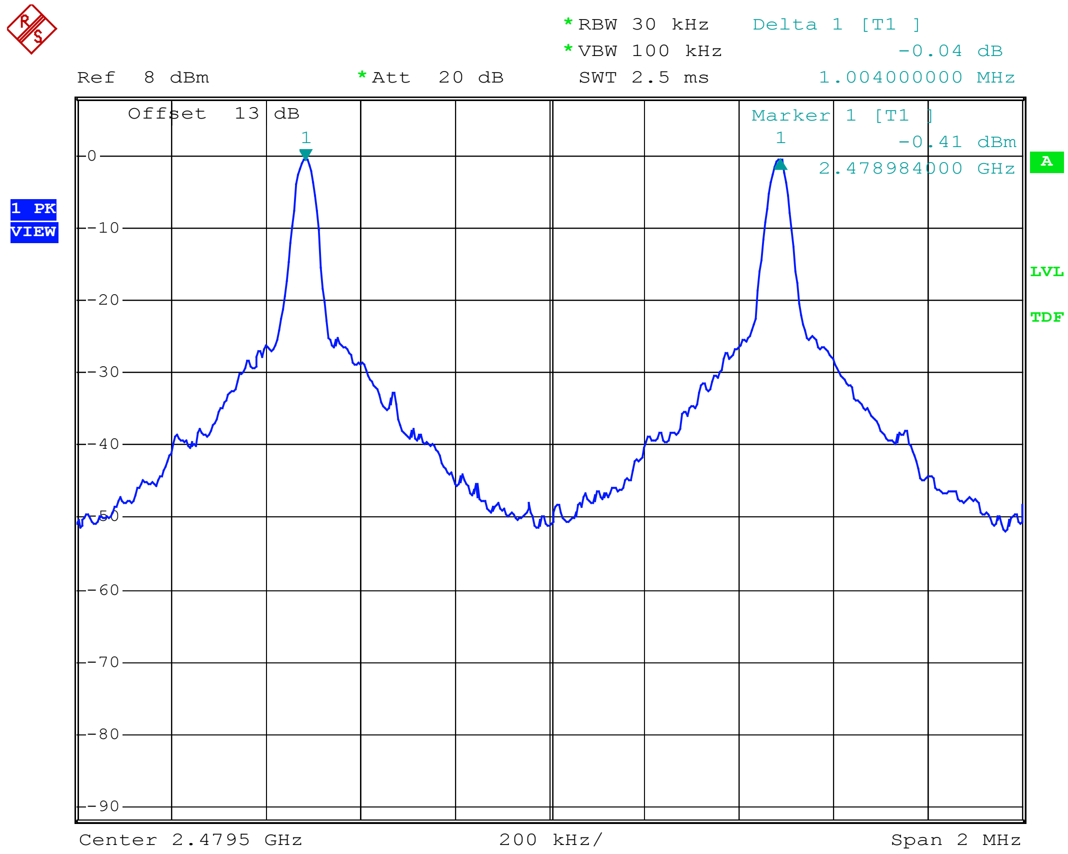
Final Measurement:	Detector:	X QP
	Meas Time:	1sec
	Peaks:	8
	Acc Margin:	25 dB



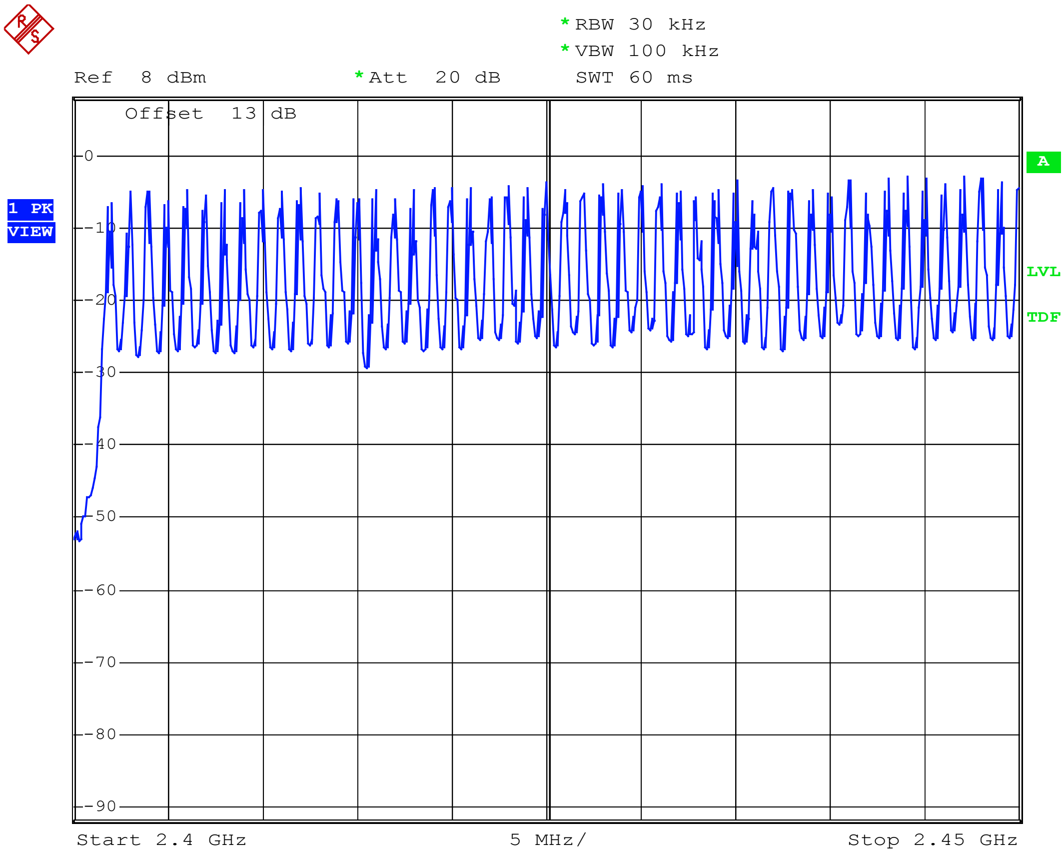
Appendix 2 : Plotted Data for Separation of Adjacent Channel

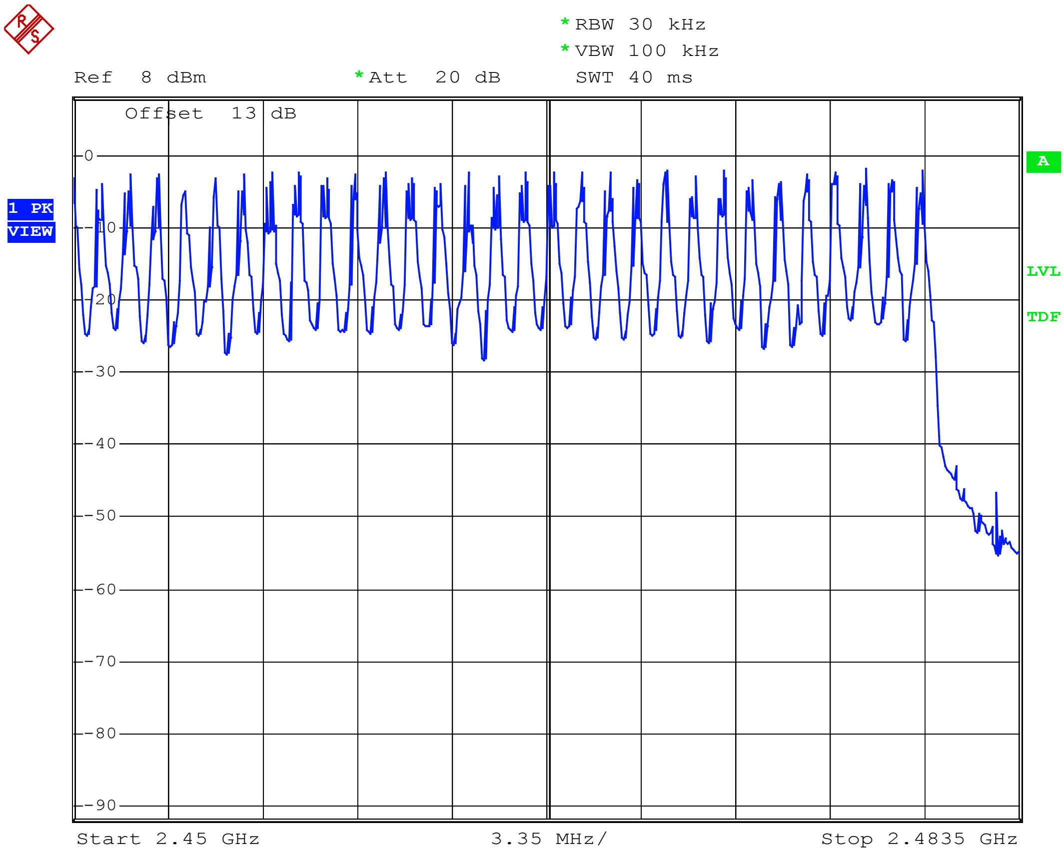

*RBW 30 kHz
*VBW 100 kHz
Ref 10 dBm
*Att 20 dB
SWT 2.5 ms
Delta 1 [T1]
-0.07 dB
1.004000000 MHz
10 Offset 15 dB
Marker 1 [T1]
-1.57 dBm
2.401984000 GHz
1 PK
VIEW
A
LVL
TDF
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 2.4025 GHz
200 kHz/
Span 2 MHz


*RBW 30 kHz
*VBW 100 kHz
Ref 10 dBm
*Att 20 dB
SWT 2.5 ms
Delta 1 [T1]
0.17 dB
1.004000000 MHz
Marker 1 [T1]
0.23 dBm
2.440984000 GHz
10 Offset 15 dB
1 PK
MAXH
A
LVL
TDF
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 2.4415 GHz
200 kHz/
Span 2 MHz

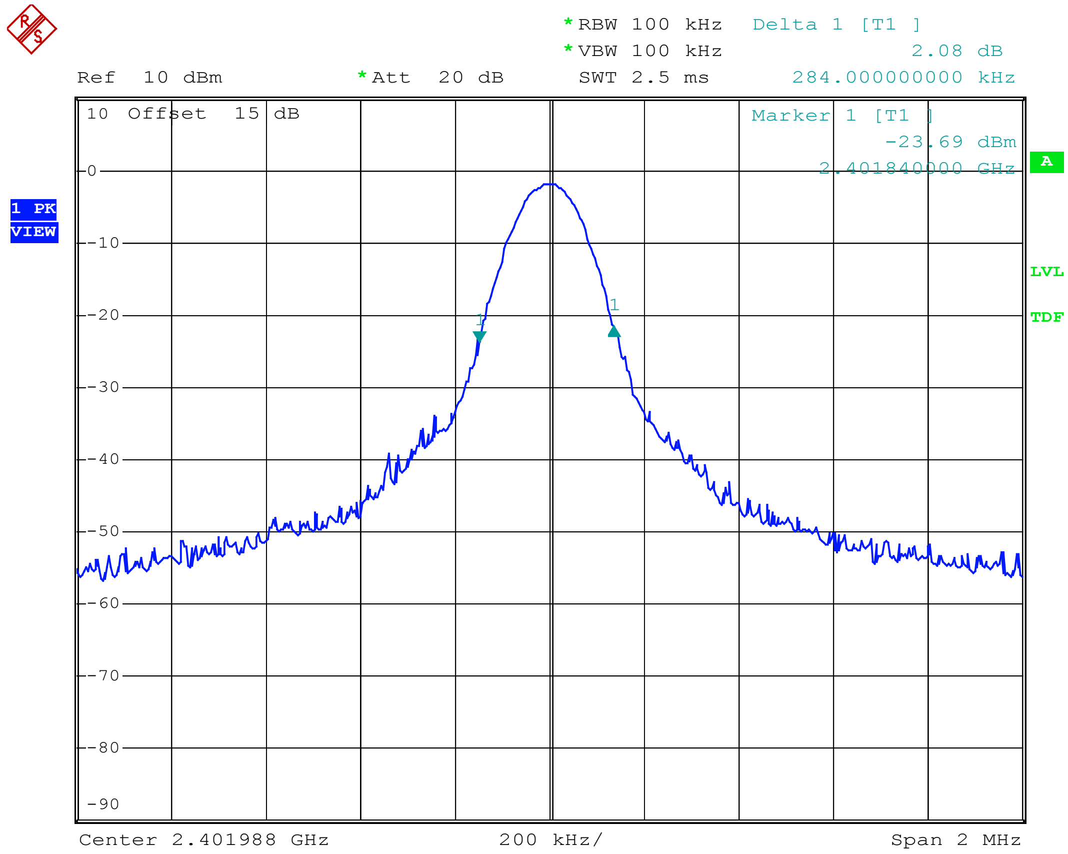

*RBW 30 kHz
*VBW 100 kHz
Ref 8 dBm
*Att 20 dB
SWT 2.5 ms
Delta 1 [T1]
-0.04 dB
1.004000000 MHz
Offset 13 dB
Marker 1 [T1]
-0.41 dBm
2.478984000 GHz
1 PK VIEW
A
LVL
TDF
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 2.4795 GHz
200 kHz/
Span 2 MHz

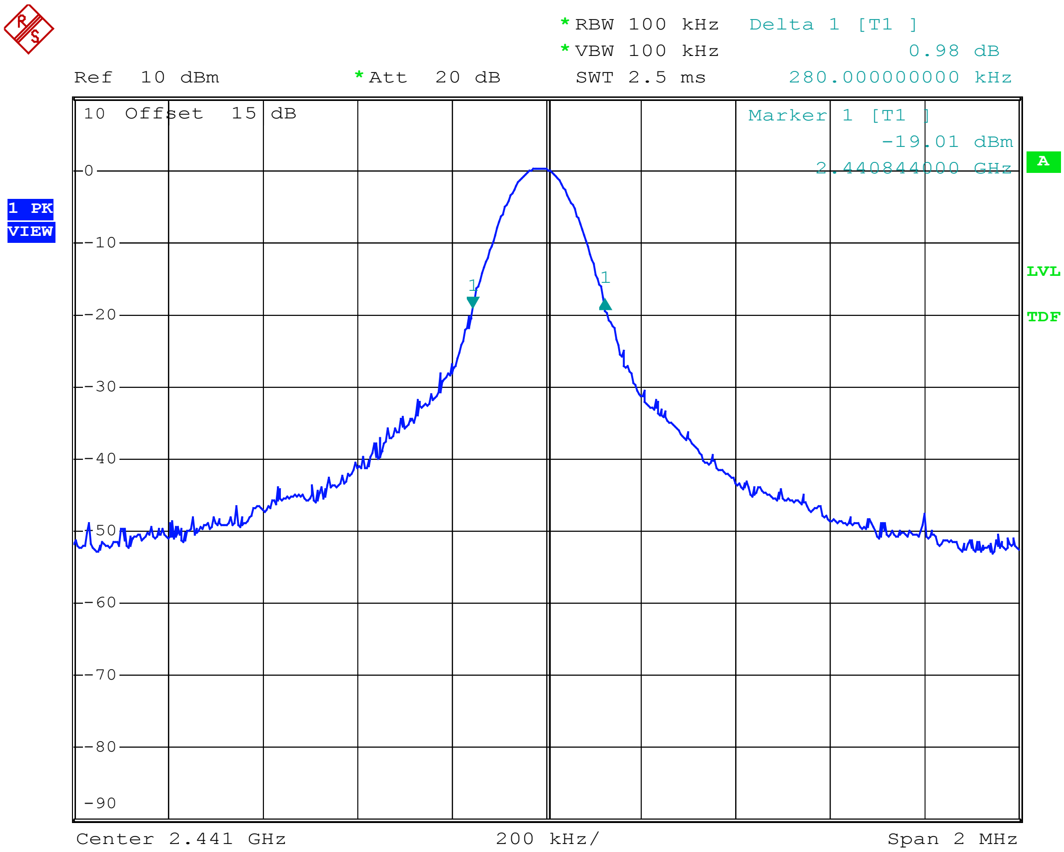
Appendix 3 : Plotted Data for Total Used Hopping Frequencies

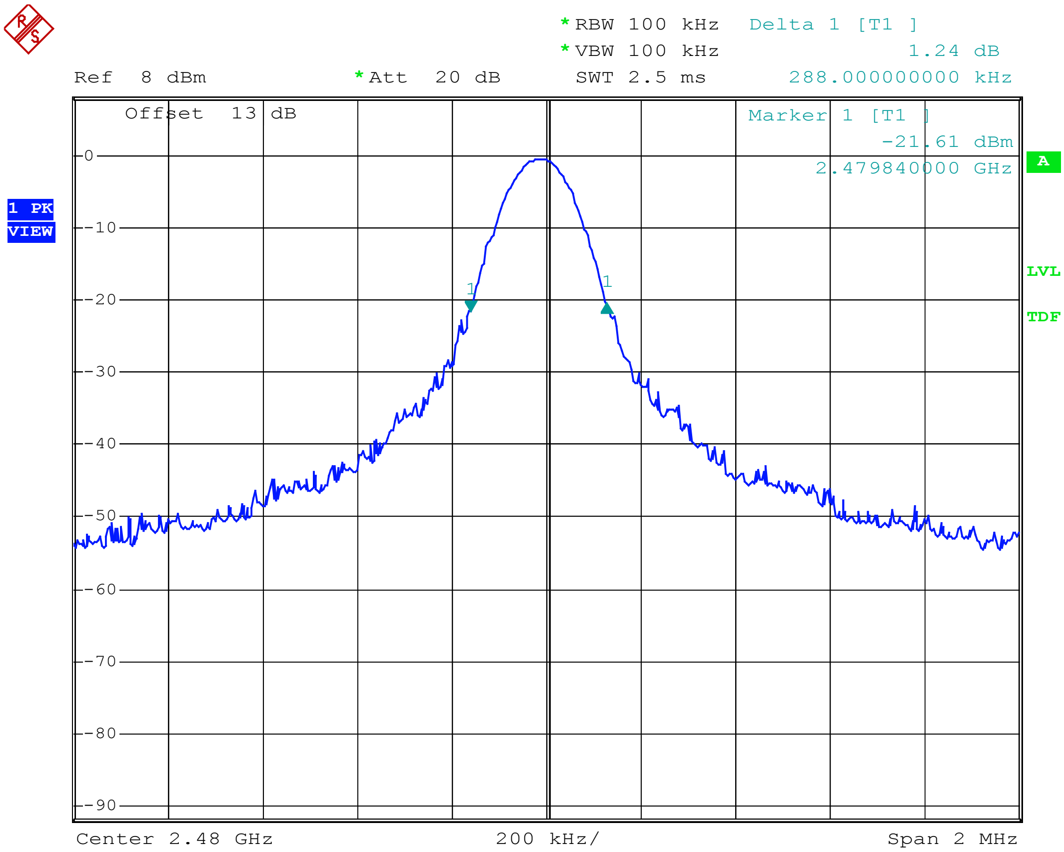

*RBW 30 kHz
*VBW 100 kHz
Ref 8 dBm
*Att 20 dB
SWT 60 ms
Offset 13 dB
1 PK
VIEW
A
LVL
TDF
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Start 2.4 GHz
5 MHz/
Stop 2.45 GHz


*RBW 30 kHz
*VBW 100 kHz
Ref 8 dBm
*Att 20 dB
SWT 40 ms
Offset 13 dB
1 PK
VIEW
A
LVL
TDF
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Start 2.45 GHz
3.35 MHz/
Stop 2.4835 GHz

Appendix 4 : Plotted Data for Channel Bandwidth

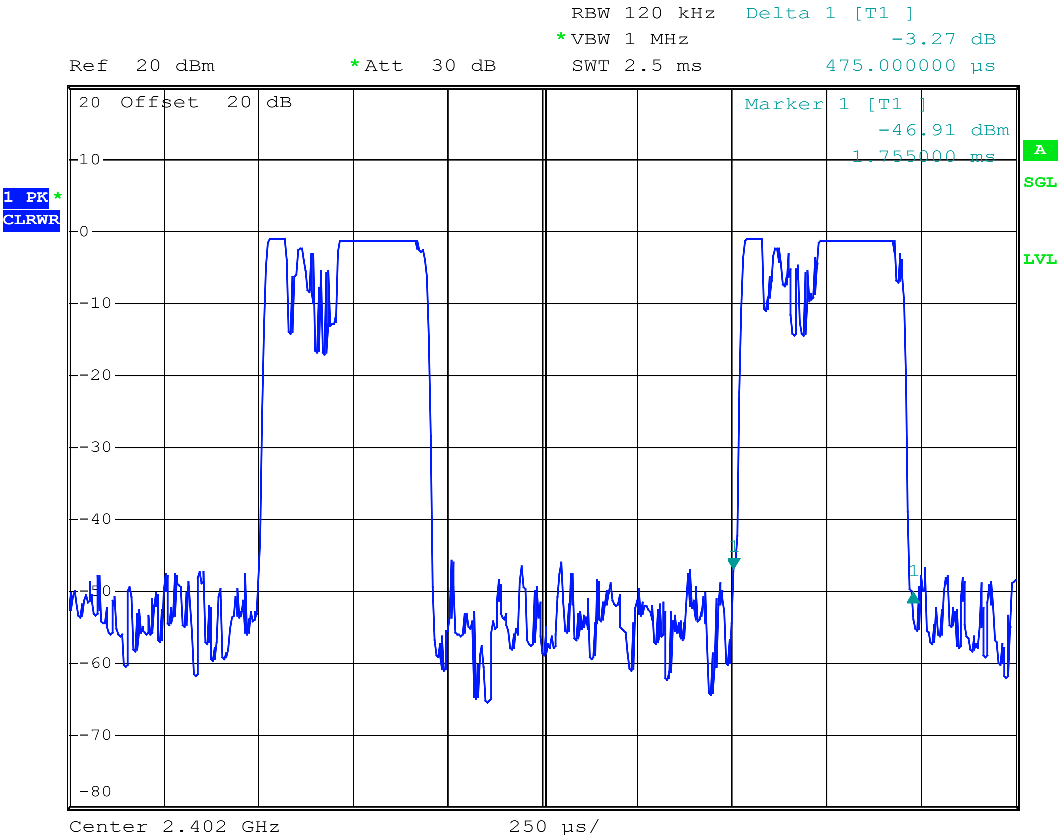

*RBW 100 kHz
Delta 1 [T1]
*VBW 100 kHz
2.08 dB
Ref 10 dBm
*Att 20 dB
SWT 2.5 ms
284.000000000 kHz
10 Offset 15 dB
Marker 1 [T1]
-23.69 dBm
2.401840000 GHz
A
1 PK
VIEW
LVL
TDF
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 2.401988 GHz
200 kHz/
Span 2 MHz


RBW 100 kHz
VBW 100 kHz
Delta 1 [T1]
0.98 dB
280.000000000 kHz
Ref 10 dBm
Att 20 dB
SWT 2.5 ms
Offset 15 dB
Marker 1 [T1]
-19.01 dBm
2.440844000 GHz
1 PK VIEW
A
LVL
TDF
Center 2.441 GHz
200 kHz/
Span 2 MHz

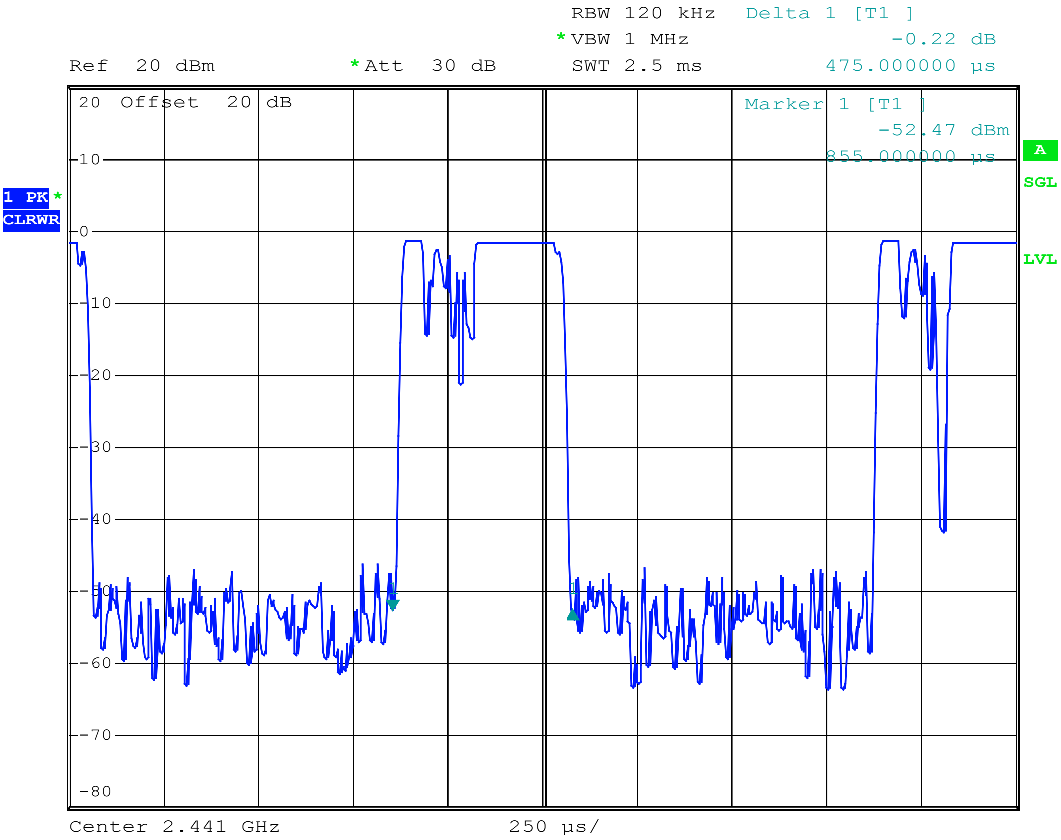

*RBW 100 kHz
Delta 1 [T1]
1.24 dB
*VBW 100 kHz
Ref 8 dBm
*Att 20 dB
SWT 2.5 ms
288.000000000 kHz
Offset 13 dB
Marker 1 [T1]
-21.61 dBm
2.479840000 GHz
1 PK
VIEW
A
LVL
TDF
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 2.48 GHz
200 kHz/
Span 2 MHz

Appendix 5 : Plotted Data for Channel Dwell Time

Mode: DH1; Channel Low

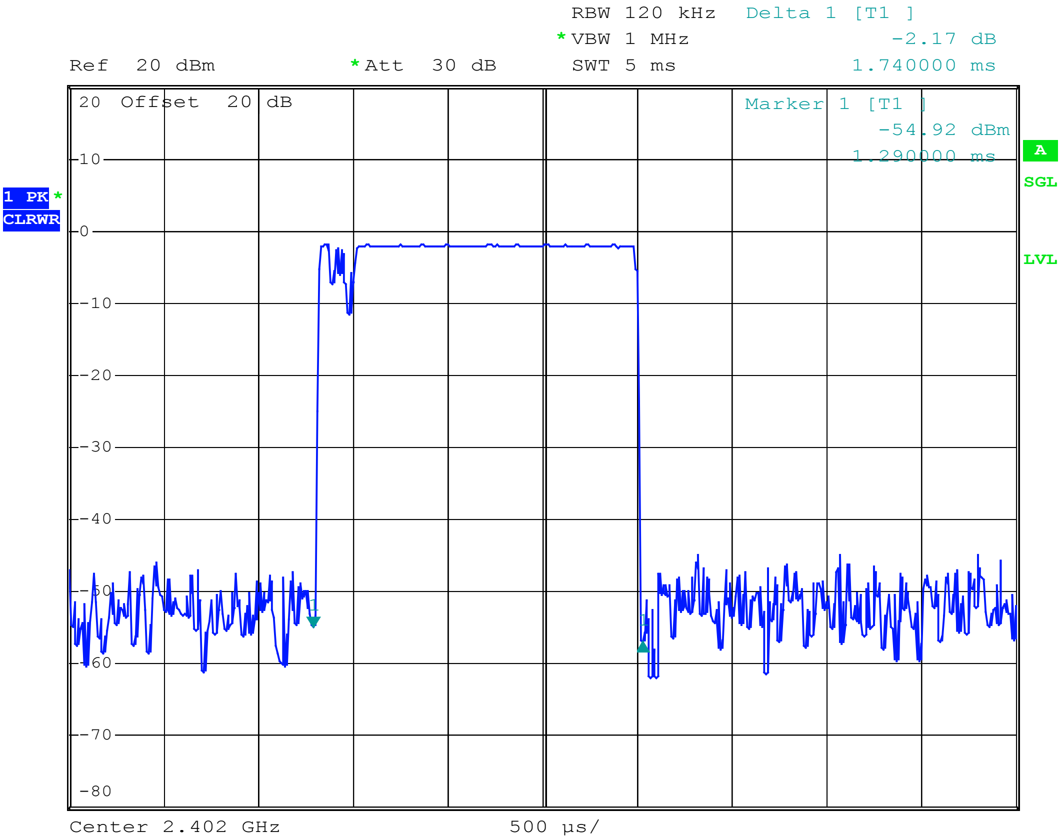


Mode: DH1; Channel Middle

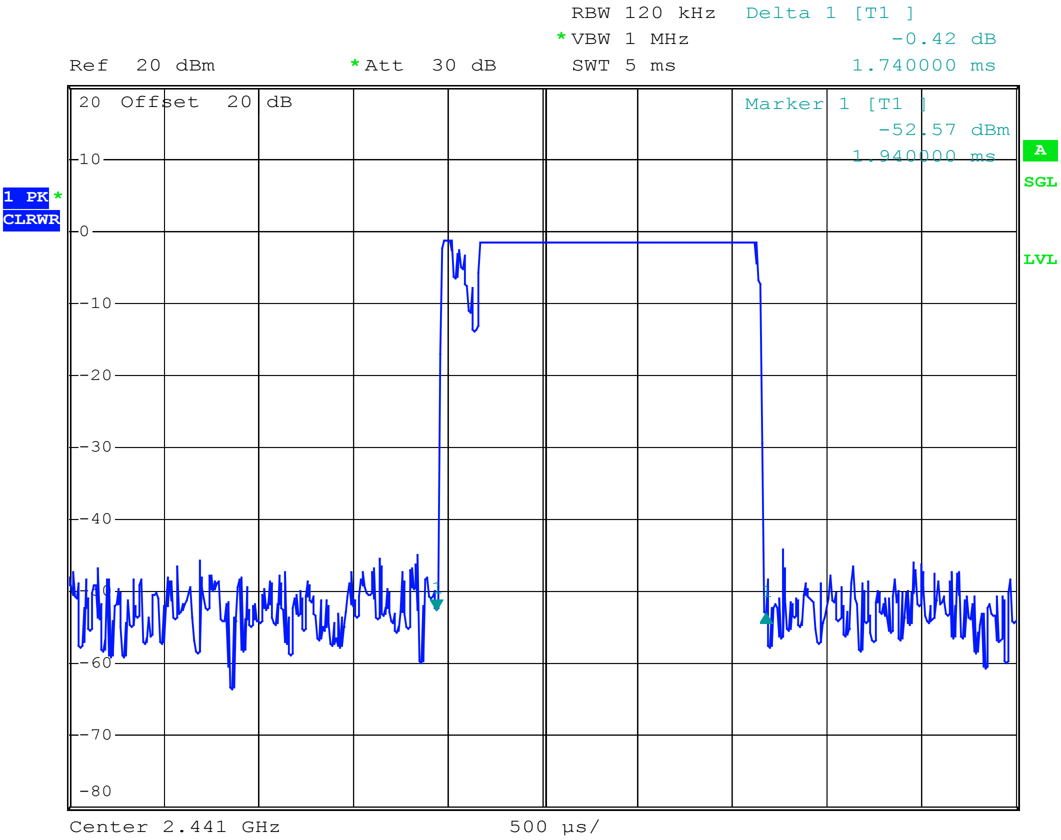


Mode: DH1; Channel High

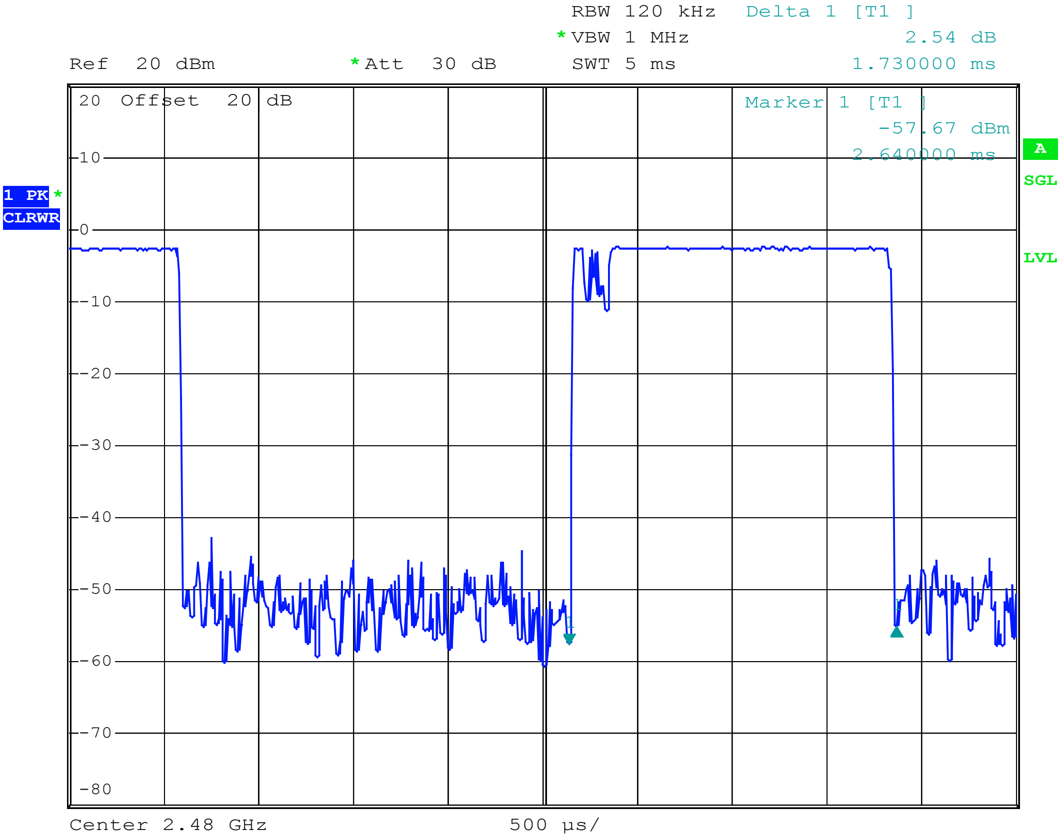
Mode: DH3; Channel Low



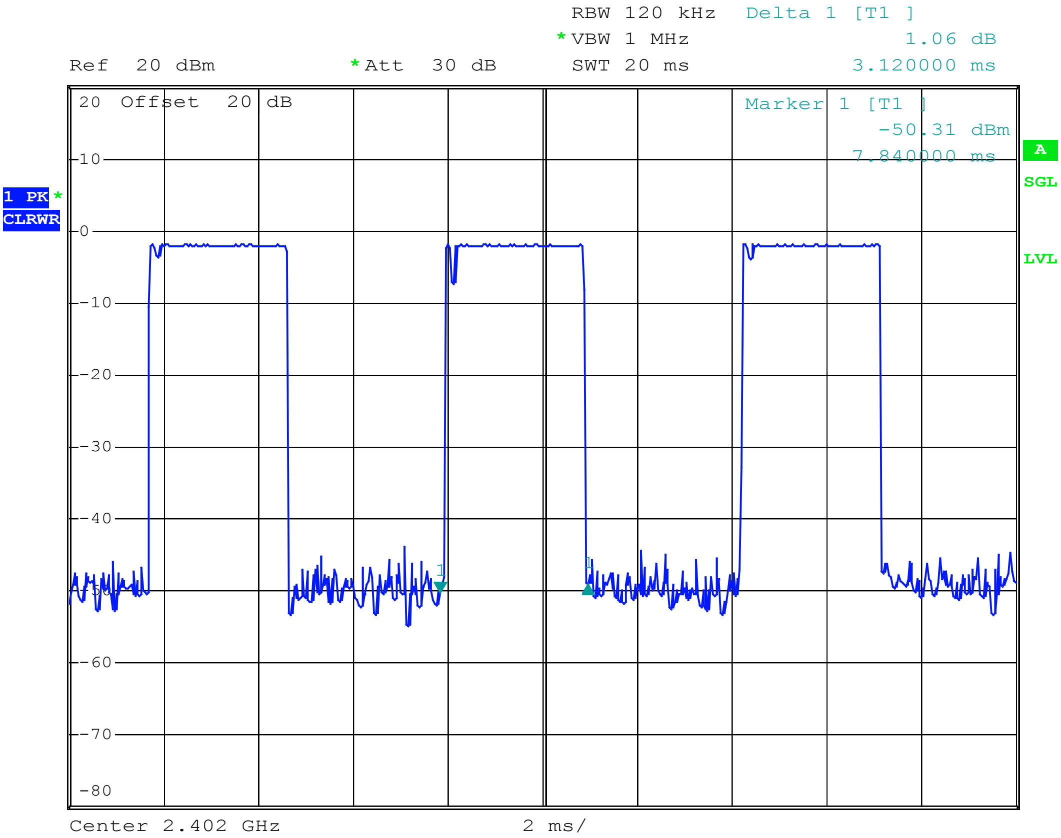
Mode: DH3; Channel Middle



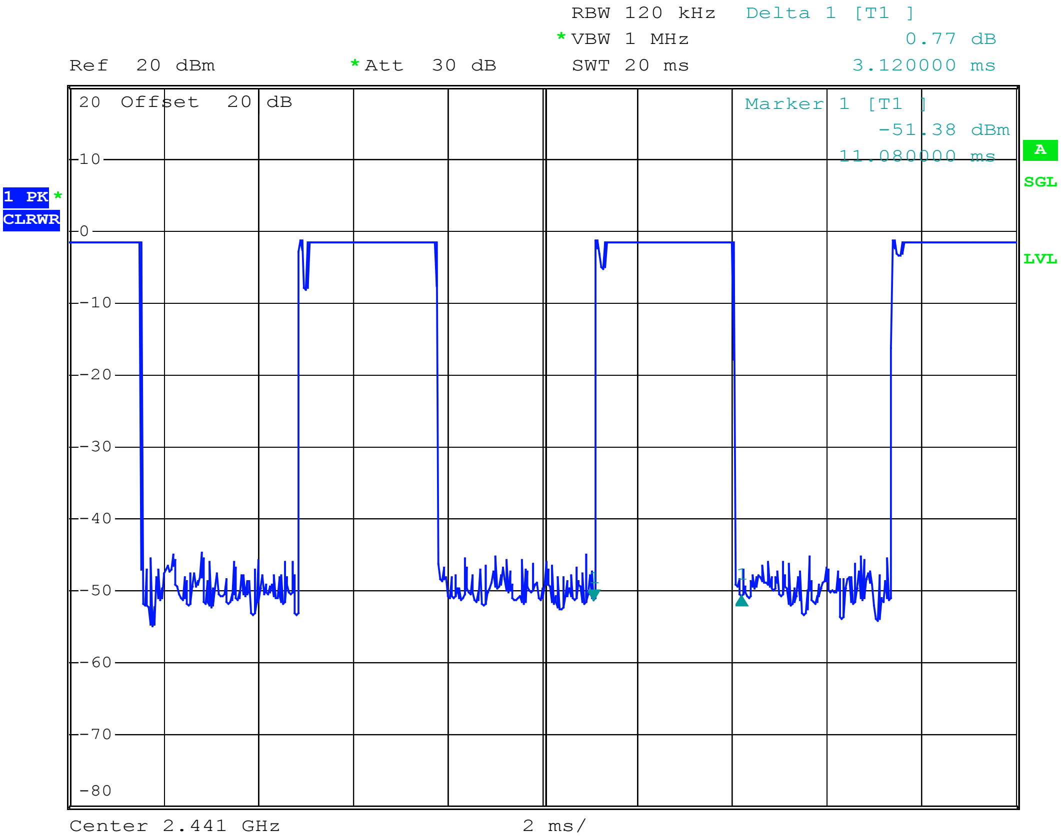
Mode: DH3; Channel High



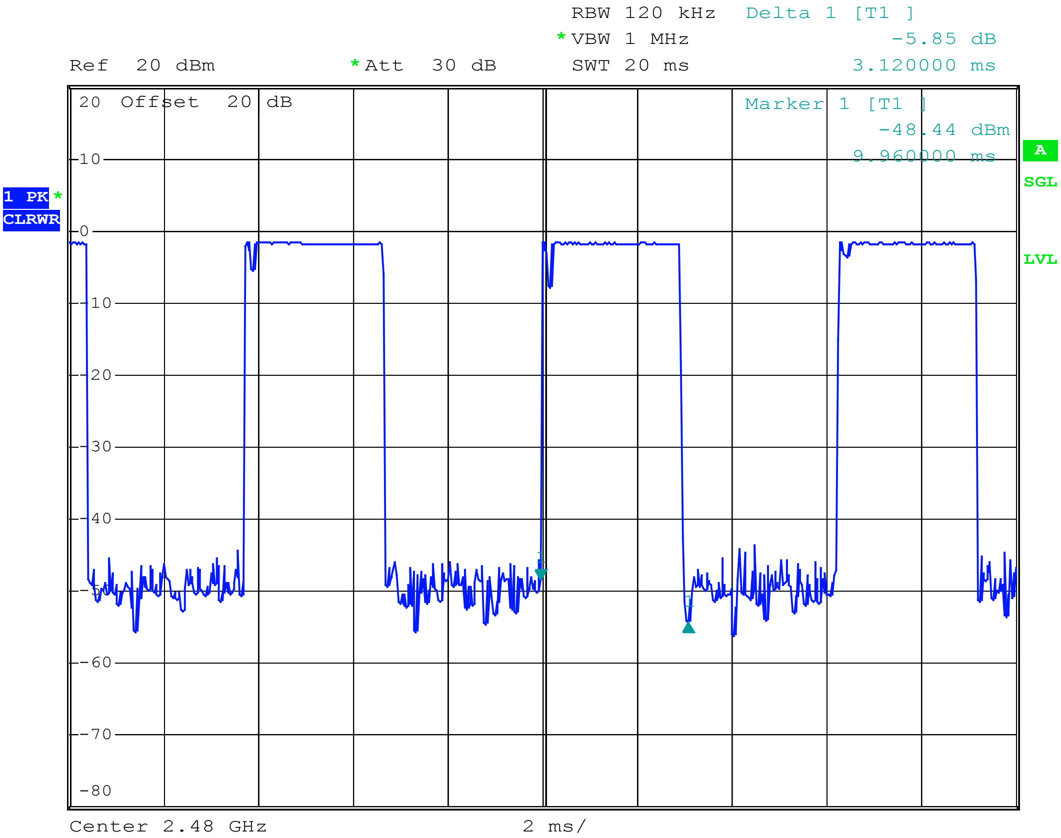
Mode: DH5; Channel Low



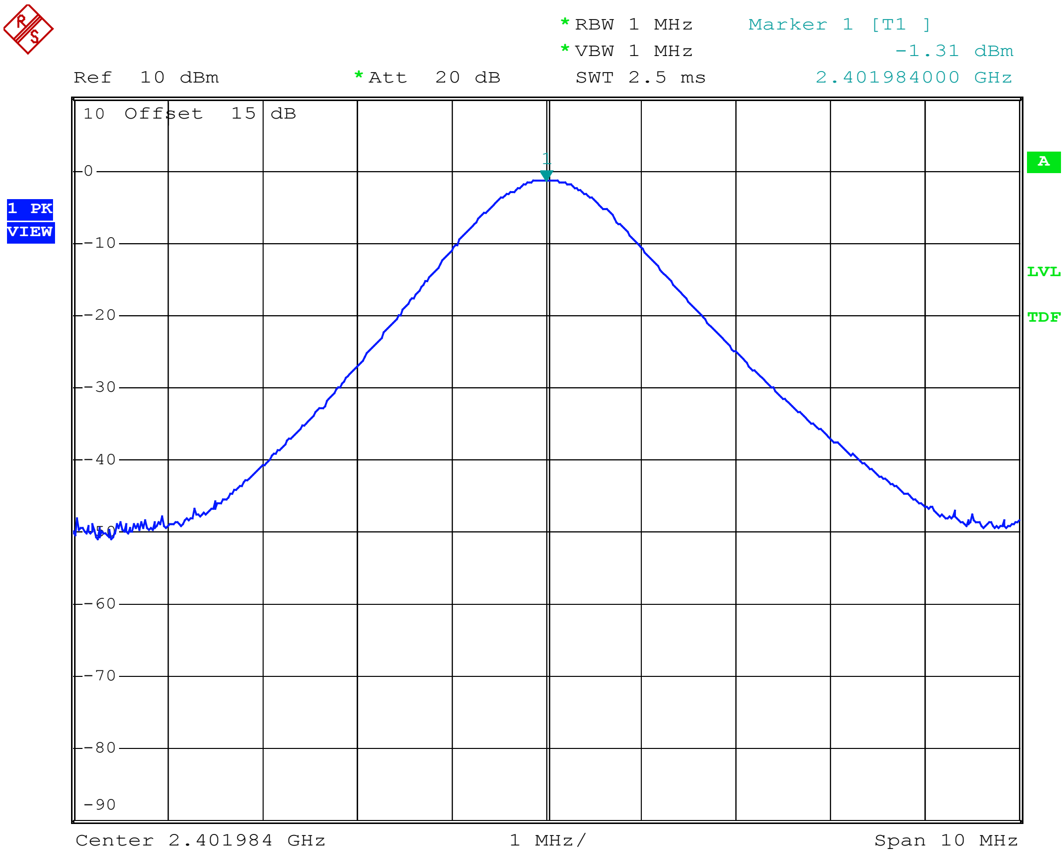
Mode: DH5; Channel Middle

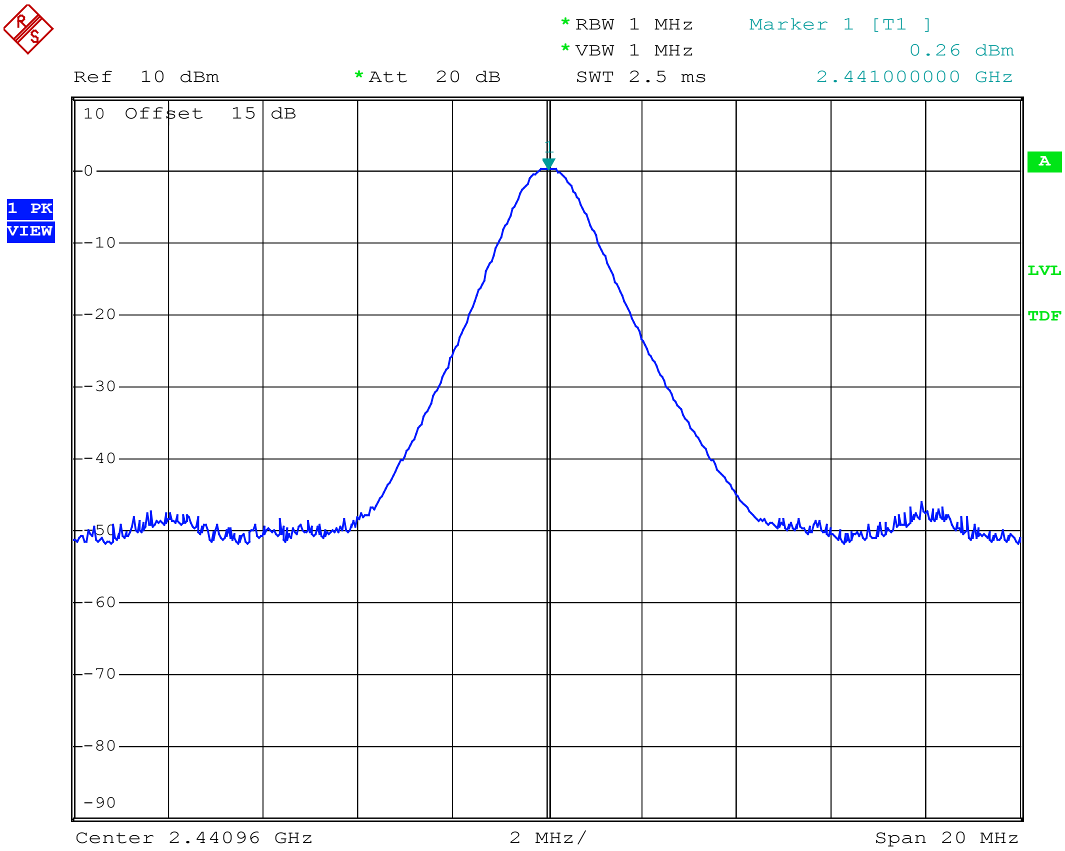


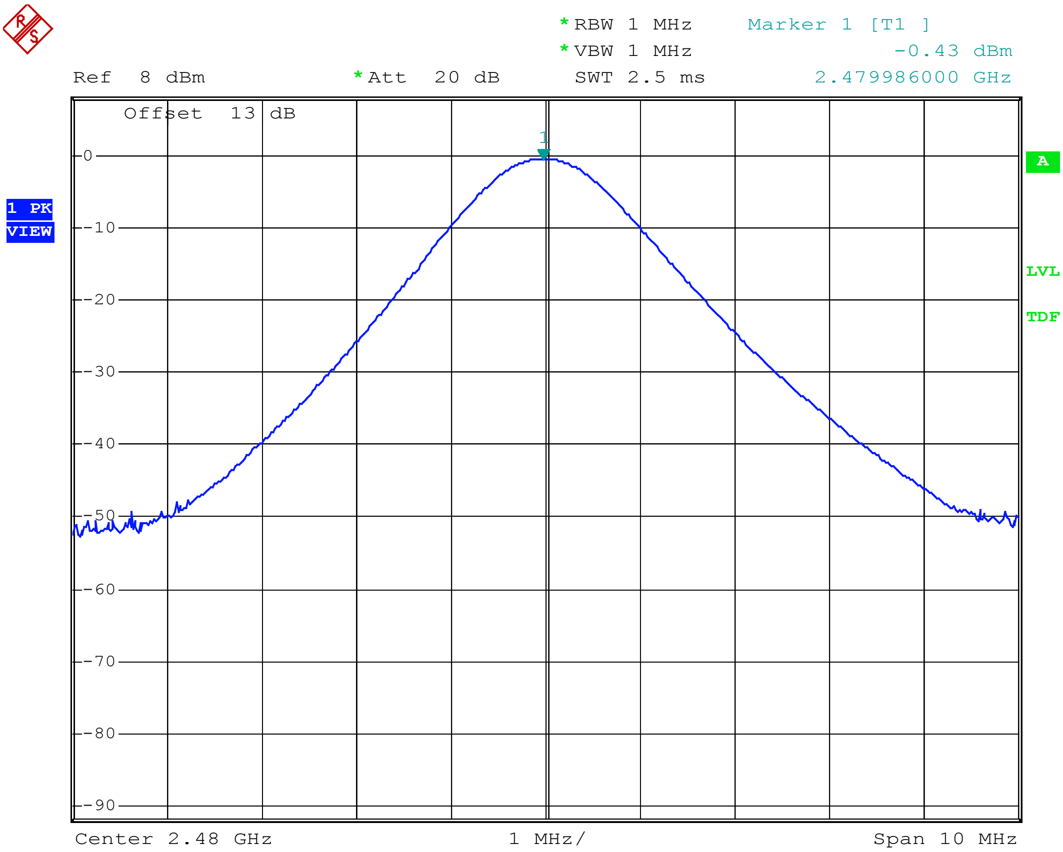
Mode: DH5; Channel High



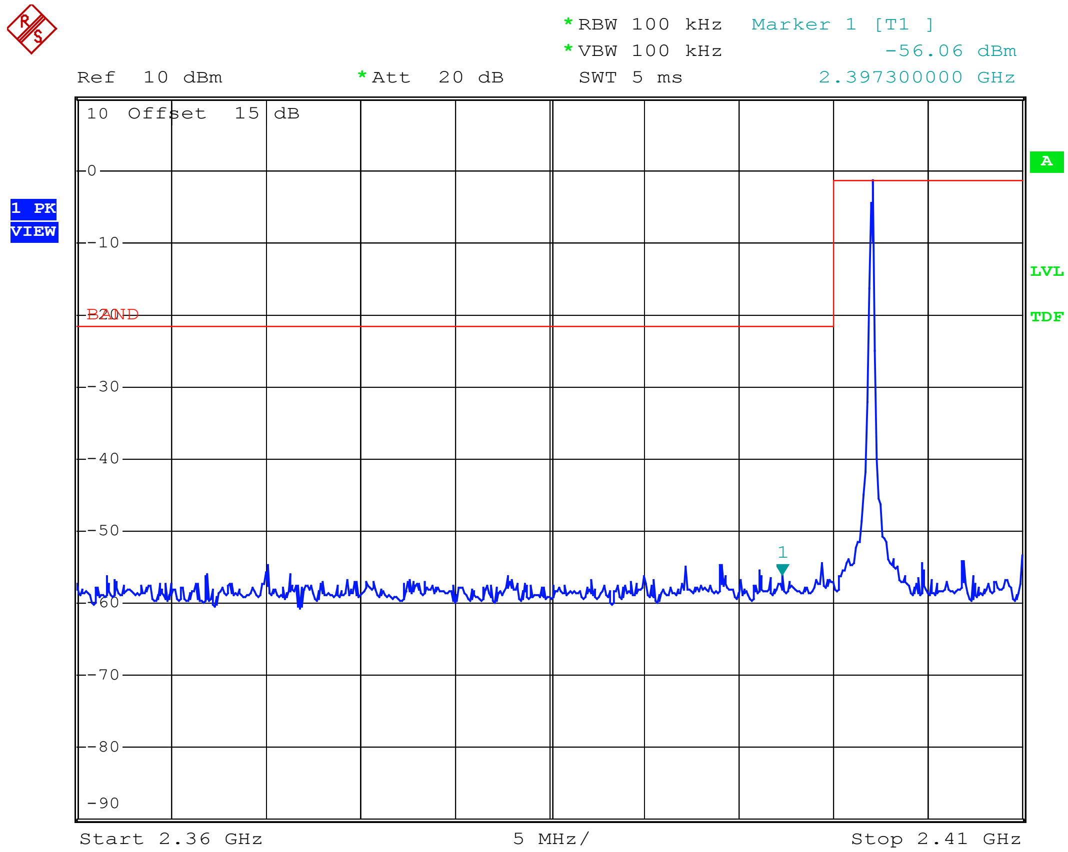
Appendix 6 : Plotted Data for Output Peak Power

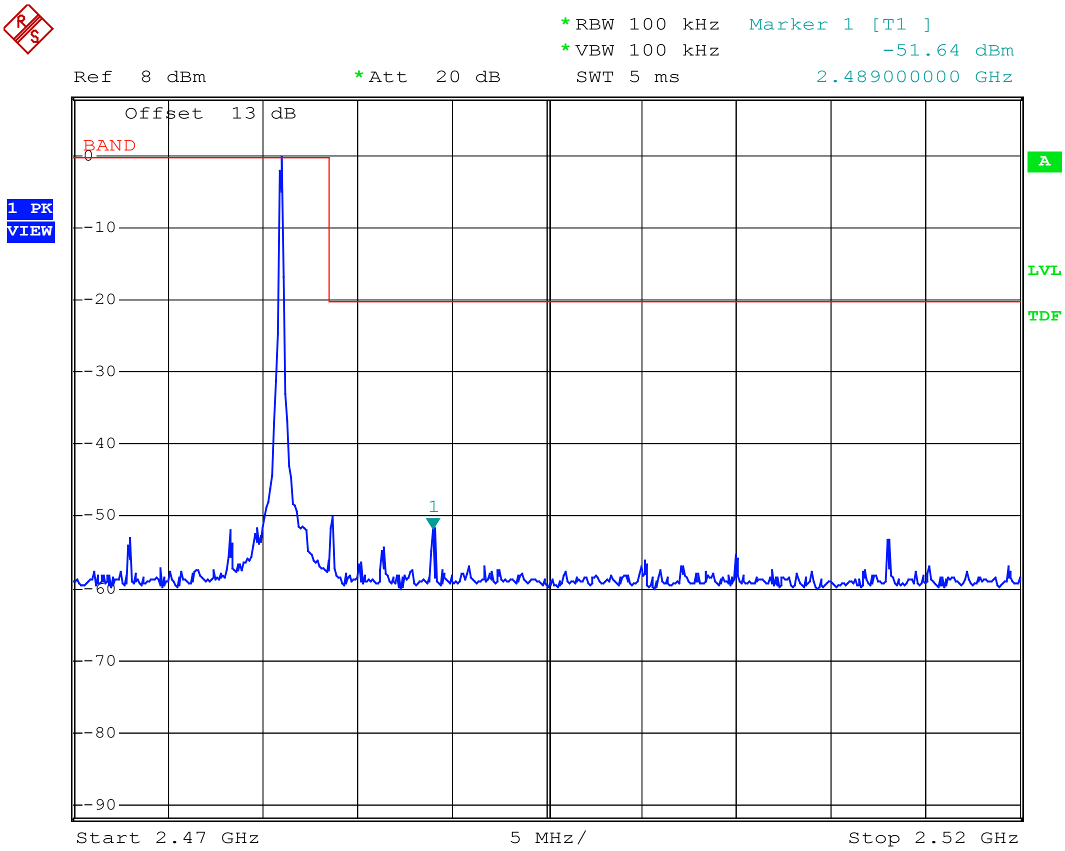

*RBW 1 MHz
Marker 1 [T1]
*VBW 1 MHz
-1.31 dBm
Ref 10 dBm
*Att 20 dB
SWT 2.5 ms
2.401984000 GHz
10 Offset 15 dB
0
-10
-20
-30
-40
-60
-70
-80
-90
1 PK
VIEW
A
LVL
TDF
Center 2.401984 GHz
1 MHz/
Span 10 MHz


*RBW 1 MHz
Marker 1 [T1]
*VBW 1 MHz
0.26 dBm
Ref 10 dBm
*Att 20 dB
SWT 2.5 ms
2.441000000 GHz
10 Offset 15 dB
1 PK VIEW
A
LVL
TDF
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 2.44096 GHz
2 MHz/
Span 20 MHz

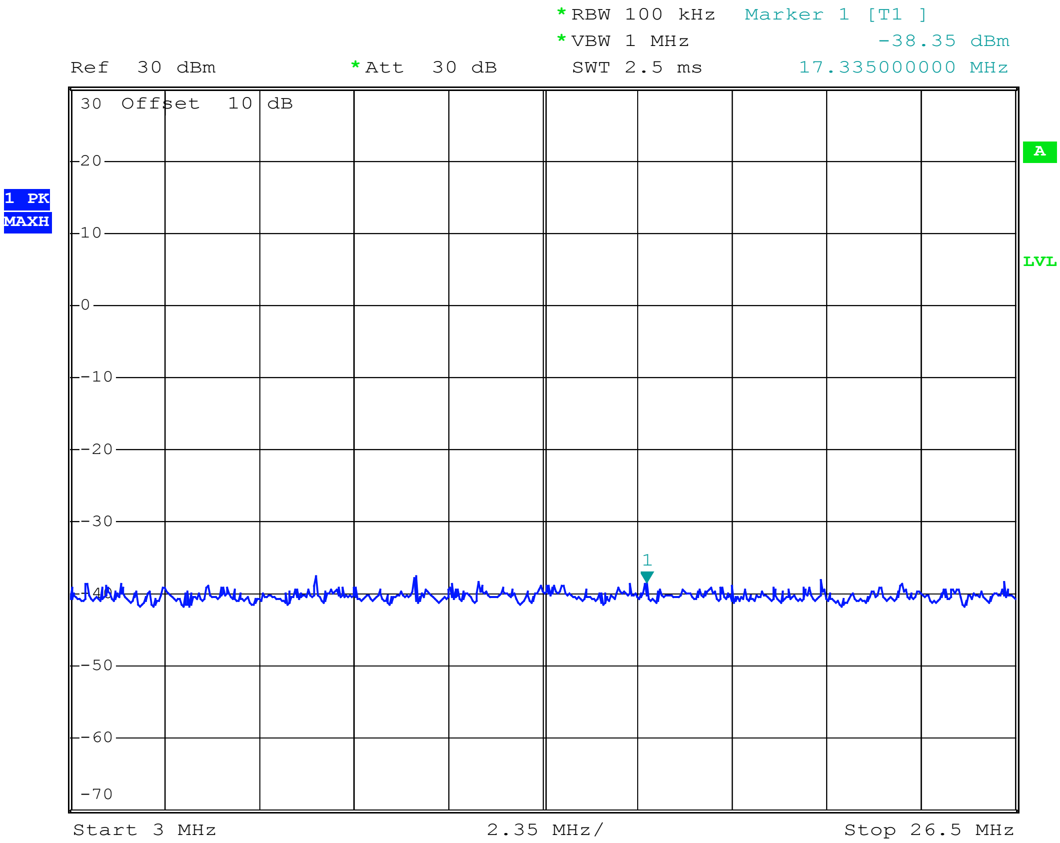

*RBW 1 MHz
Marker 1 [T1]
*VBW 1 MHz
-0.43 dBm
Ref 8 dBm
*Att 20 dB
SWT 2.5 ms
2.479986000 GHz
Offset 13 dB
1 PK
VIEW
A
LVL
TDF
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 2.48 GHz
1 MHz/
Span 10 MHz

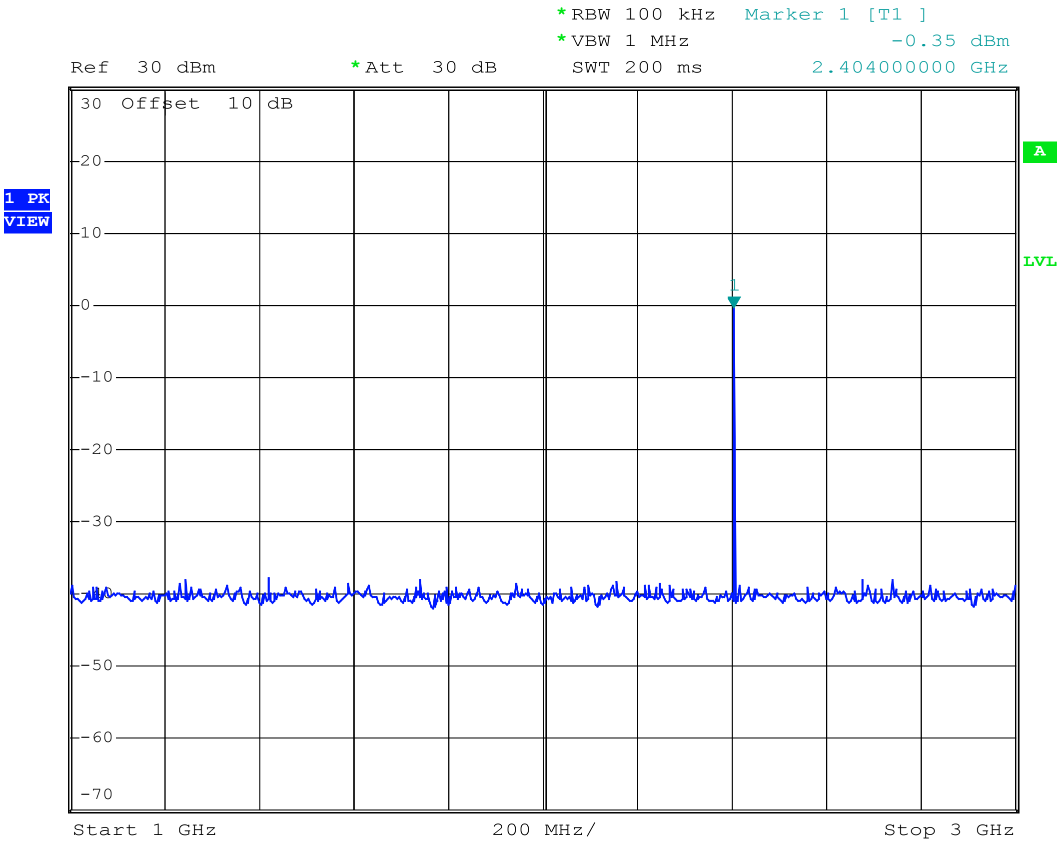
Appendix 7 : Plotted Data for 100 kHz Bandwidth from Band Edge

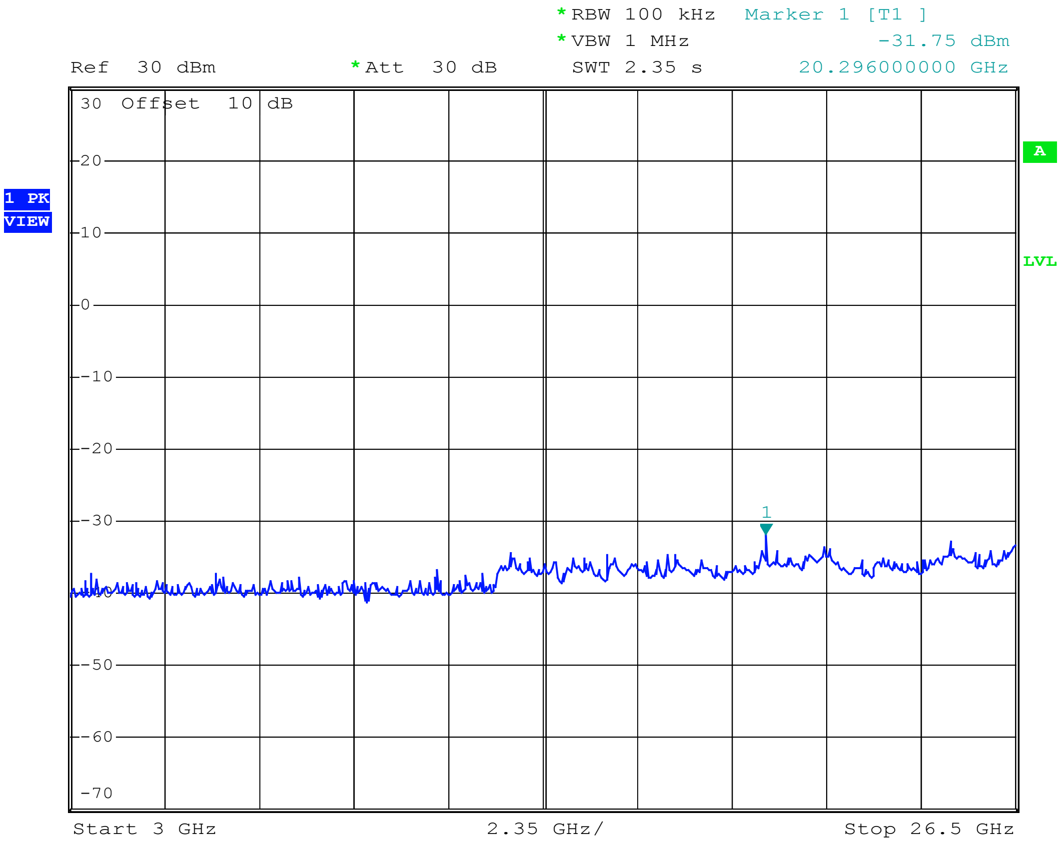

*RBW 100 kHz
Marker 1 [T1]
*VBW 100 kHz
-56.06 dBm
Ref 10 dBm
*Att 20 dB
SWT 5 ms
2.397300000 GHz
10 Offset 15 dB
0
-10
-20
BAND
-30
-40
-50
-60
-70
-80
-90
1 PK
VIEW
A
LVL
TDF
1
Start 2.36 GHz
5 MHz/
Stop 2.41 GHz

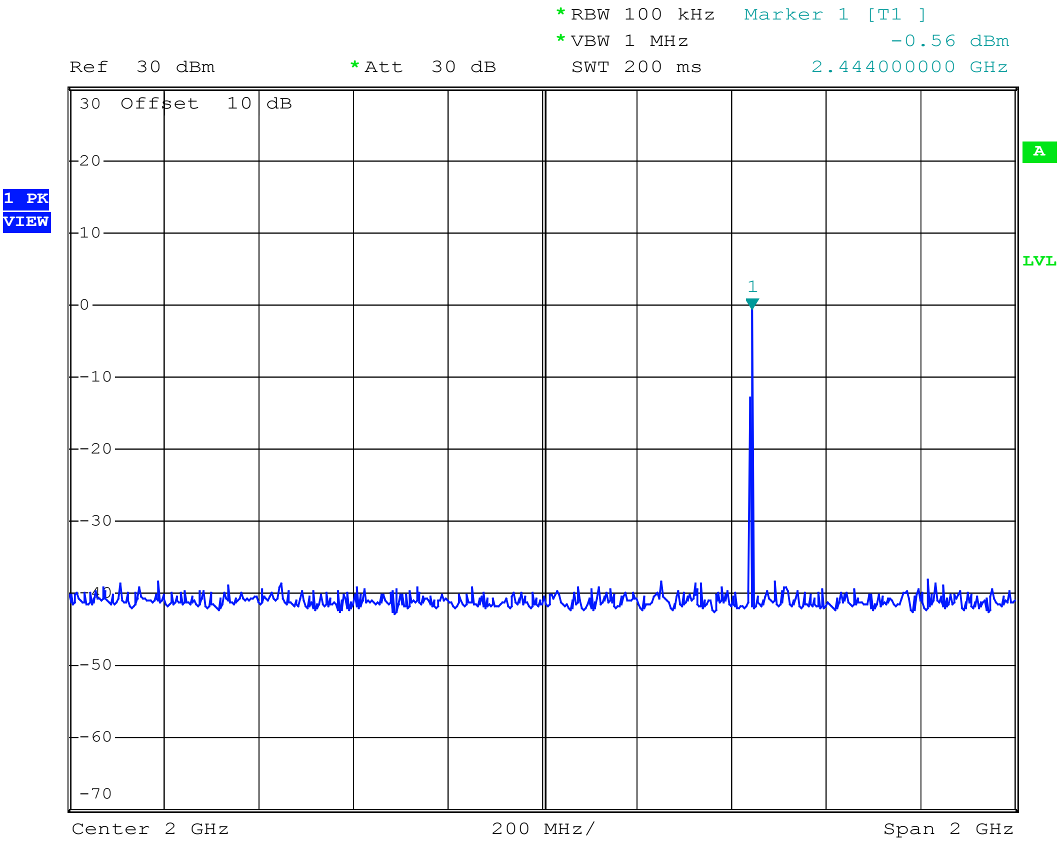

*RBW 100 kHz
Marker 1 [T1]
*VBW 100 kHz
-51.64 dBm
Ref 8 dBm
*Att 20 dB
SWT 5 ms
2.489000000 GHz
Offset 13 dB
BAND
1 PK
VIEW
A
LVL
TDF
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
1
Start 2.47 GHz
5 MHz/
Stop 2.52 GHz

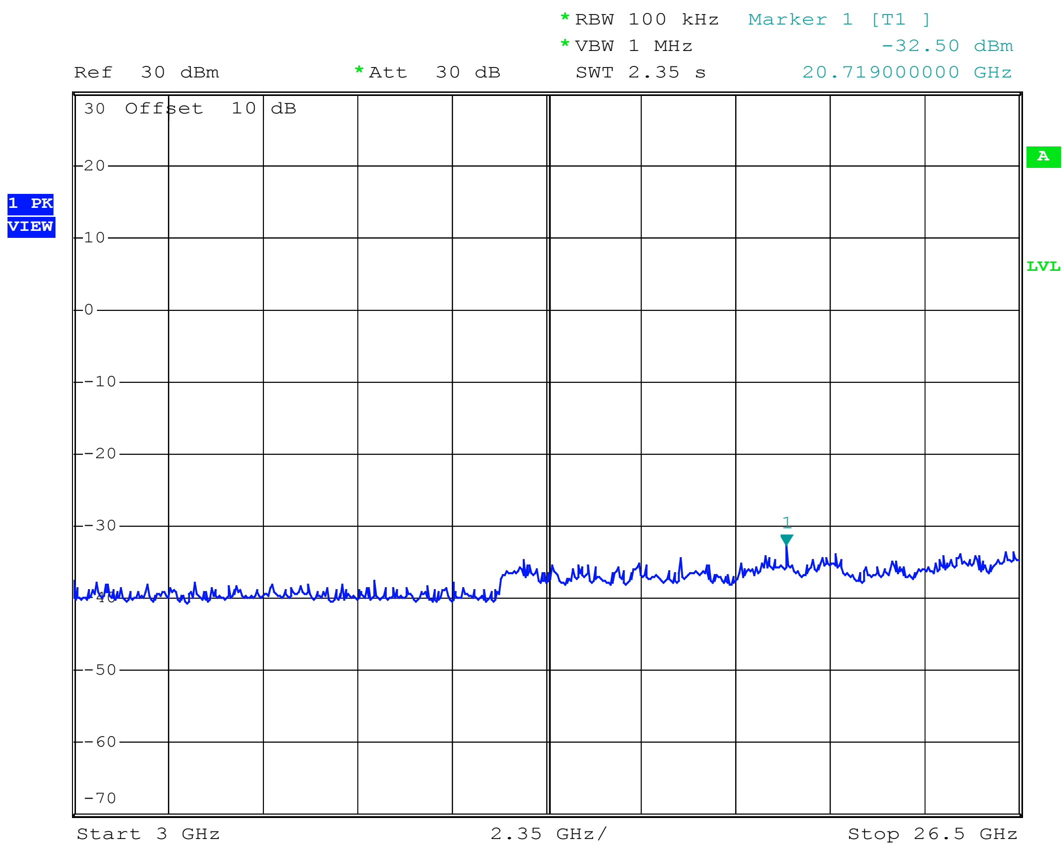
Appendix 8 : Plotted Data for Out-of-Band Conducted Emission

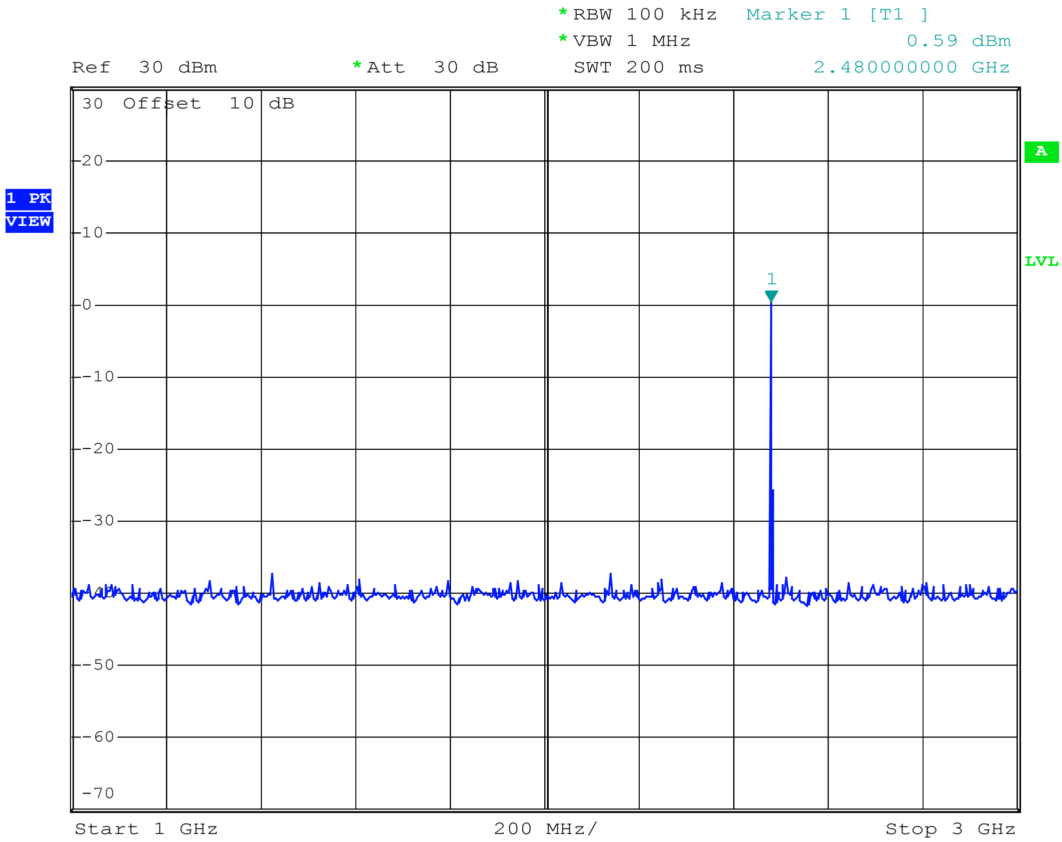

*RBW 100 kHz
Marker 1 [T1]
*VBW 1 MHz
-38.35 dBm
Ref 30 dBm
*Att 30 dB
SWT 2.5 ms
17.335000000 MHz
30 Offset 10 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
1 PK
MAXH
A
LVL
1
Start 3 MHz
2.35 MHz/
Stop 26.5 MHz

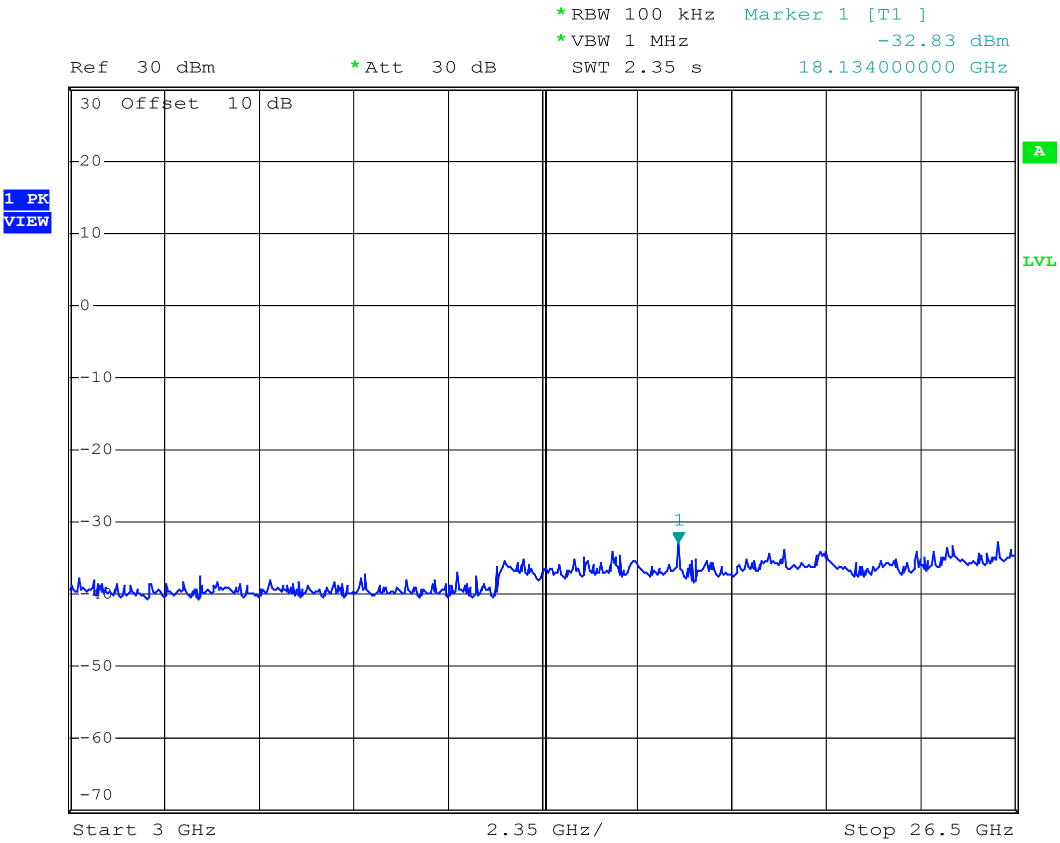

*RBW 100 kHz
Marker 1 [T1]
*VBW 1 MHz
-0.35 dBm
Ref 30 dBm
*Att 30 dB
SWT 200 ms
2.404000000 GHz
30 Offset 10 dB
1 PK
VIEW
A
LVL
Start 1 GHz
200 MHz/
Stop 3 GHz


*RBW 100 kHz
Marker 1 [T1]
*VBW 1 MHz
-31.75 dBm
Ref 30 dBm
*Att 30 dB
SWT 2.35 s
20.296000000 GHz
30 Offset 10 dB
1 PK
VIEW
A
LVL
20
10
0
-10
-20
-30
-50
-60
-70
1
Start 3 GHz
2.35 GHz/
Stop 26.5 GHz

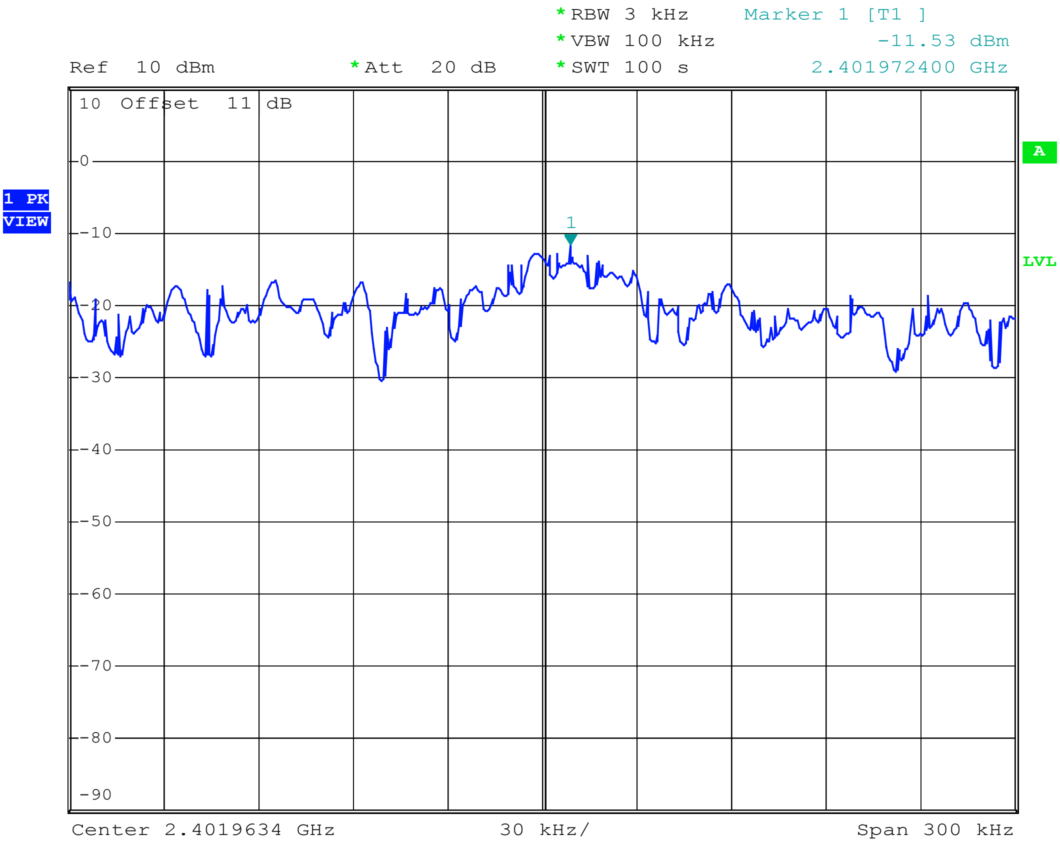

*RBW 100 kHz
Marker 1 [T1]
*VBW 1 MHz
-0.56 dBm
Ref 30 dBm
*Att 30 dB
SWT 200 ms
2.444000000 GHz
30 Offset 10 dB
1 PK
VIEW
A
LVL
Center 2 GHz
200 MHz/
Span 2 GHz

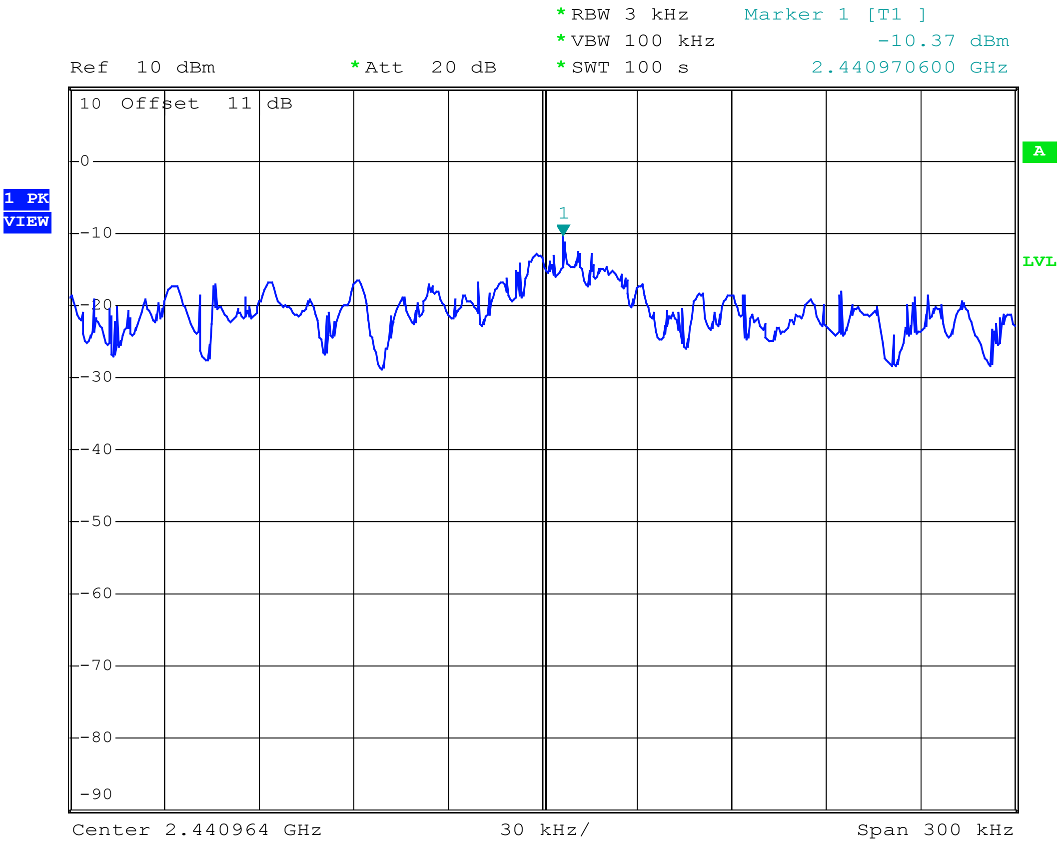

*RBW 100 kHz
Marker 1 [T1]
*VBW 1 MHz
-32.50 dBm
Ref 30 dBm
*Att 30 dB
SWT 2.35 s
20.719000000 GHz
30 Offset 10 dB
20
10
0
-10
-20
-30
-50
-60
-70
1 PK
VIEW
A
LVL
1
Start 3 GHz
2.35 GHz/
Stop 26.5 GHz

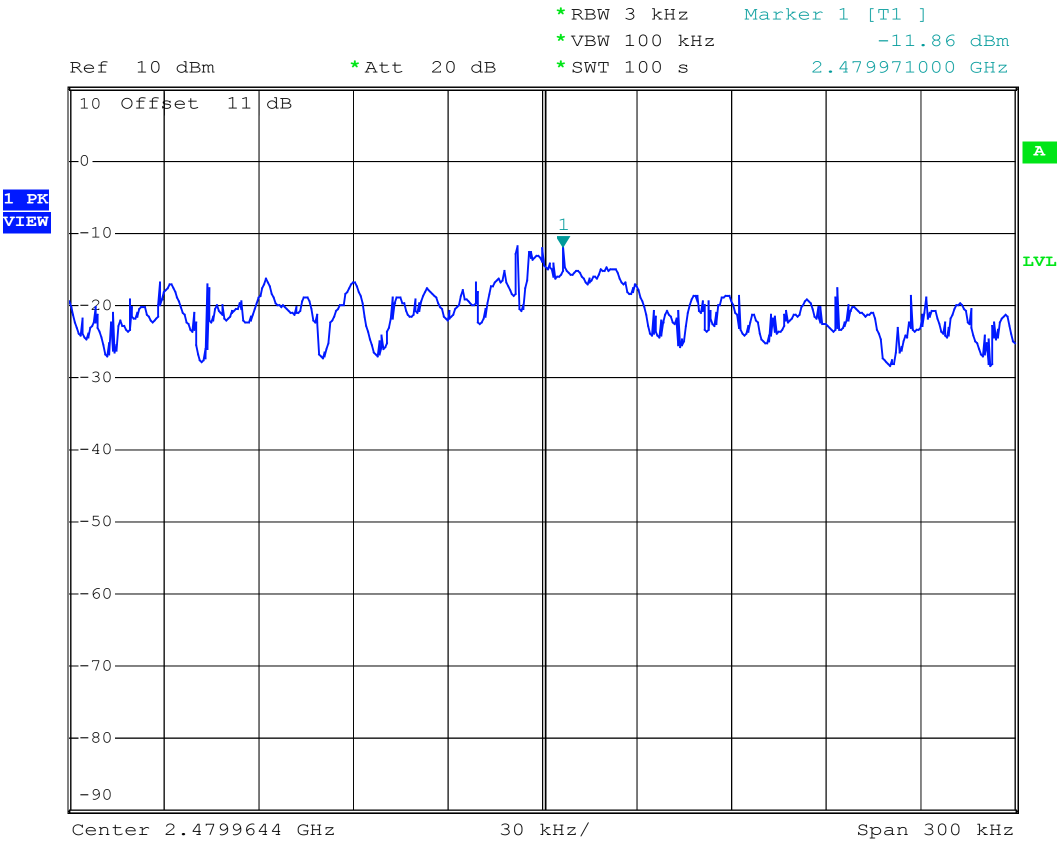

*RBW 100 kHz
Marker 1 [T1]
*VBW 1 MHz
0.59 dBm
Ref 30 dBm
*Att 30 dB
SWT 200 ms
2.480000000 GHz
30 Offset 10 dB
1 PK
VIEW
A
LVL
20
10
0
-10
-20
-30
-50
-60
-70
1
Start 1 GHz
200 MHz/
Stop 3 GHz


*RBW 100 kHz
Marker 1 [T1]
*VBW 1 MHz
-32.83 dBm
Ref 30 dBm
*Att 30 dB
SWT 2.35 s
18.134000000 GHz
30 Offset 10 dB
20
10
0
-10
-20
-30
-50
-60
-70
1 PK
VIEW
A
LVL
1
Start 3 GHz
2.35 GHz/
Stop 26.5 GHz

Appendix 9 : Plotted Data for Peak Power Spectral Density


*RBW 3 kHz
Marker 1 [T1]
*VBW 100 kHz
-11.53 dBm
Ref 10 dBm
*Att 20 dB
*SWT 100 s
2.401972400 GHz
10 Offset 11 dB
A
1 PK
VIEW
LVL
1
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 2.4019634 GHz
30 kHz/
Span 300 kHz


*RBW 3 kHz
Marker 1 [T1]
*VBW 100 kHz
-10.37 dBm
Ref 10 dBm
*Att 20 dB
*SWT 100 s
2.440970600 GHz
10 Offset 11 dB
0
1 PK
VIEW
-10
1
LVL
A
-20
-30
-40
-50
-60
-70
-80
-90
Center 2.440964 GHz
30 kHz/
Span 300 kHz


*RBW 3 kHz
Marker 1 [T1]
*VBW 100 kHz
-11.86 dBm
Ref 10 dBm
*Att 20 dB
*SWT 100 s
2.479971000 GHz
10 Offset 11 dB
A
1 PK
VIEW
LVL
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
1
Center 2.4799644 GHz
30 kHz/
Span 300 kHz