EMC
TEST REPORT

Report No. : EME-011032
Model No. : BT3030
Issued Date : Jan. 08, 2002

Applicant : Tecom Co., Ltd.
23, R&D Road 2, Science-Based Industrial Park,
Hsin-chu, Taiwan, R.O.C.

Test By : Intertek Testing Services Taiwan Ltd.
No. 11, Ko-Tze-Nan Chia-Tung Li, Shiang-Shan District,
Hsinchu, Taiwan, R.O.C.

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Test Engineer Approved By

Elton Chen

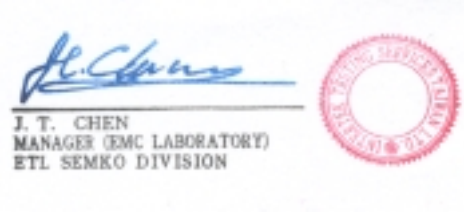


Table of Contents

1. General information

1.1 Identification of the EUT

Manufacturer	: Tecom Co., Ltd.
Product	: 2.4GHz Bluetooth
Model No.	: BT3030
FCC ID.	: D6XBT3030
Frequency Bands	: 2402MHz ~ 2480MHz
Channel Number	: 79
Frequency of Each Channel	: 2402 + k (MHz), k: 0 ~78
Hopping sequence	: Please refer to Technical Specification (technical spec.pdf) page 3.section 2.1.1 Hopping sequence
Type of Modulation	: GFSK, FHSS
Antenna Gain	: 1dBi max
Antenna Type	: Monopole antenna
Antenna Description	: The EUT uses a permanently connected antenna
Power Supply	: 5Vdc from PC
Power Cord	: N/A
Sample Received	: Dec. 13, 2001
Test Date(s)	: Dec. 13, 2001 to Jan. 03, 2002

A DoC report has been generated for the client.

1.2 Additional information about the EUT

The EUT is a bluetooth device, and it is an external dongle, for enabling of Notebook and Desktop PC through USB interface to communicate wirelessly with other Bluetooth™ enabled devices. This dongle product provides hardware and software drivers to enable wireless experience under Windows 98/2000/ME/XP.

BT3030 is compact in size, low in cost, and fast in implementation. It is a true saver for mobile and office workers to work intelligently in any different environment. With USB interface, the dongle is ready for Plug & Play. It also supports data transmission and is fully compliant with Bluetooth™ specification version 1.1 standard, class1, 2, & 3 operations, which allows up to 20 dBm output power, supporting operation range up to 100 meters.

For more detail features, please refer to Userɔs manual as file name “installation guide.pdf”

1.3 Description about the Receiver compliance with FCC 15.247 (a)(1)

The receiver architecture is dual down-conversion; Receiver input and Transmitter output are using the same RF channel band-pass filter, same signal path to the antenna port.
The selected filter has excellent out-of-band rejection to eliminate undesired signals received at the antenna, and to reduce emissions other than the desired RF output during transmission.
The EUT does not transmit and receive simultaneously.

For more detail features, please refer to Technical Specification as file name “technical spec.pdf” and User’s manual as file name “Installation guide.pdf”.

1.4 Peripherals equipment

1. PC
   Product No. : 634588V
   Serial No. : BN3R1VC
   Manufacturer : IBM

2. Key Board
   Product No. : 37L2548
   Serial No. : 0095996
   Manufacturer : IBM

3. Monitor
   Product No. : 6331-0LN
   Serial No. : 23-NW855
   Manufacturer : IBM

4. Mouse
   Product No. : 10L6144
   Serial No. : 23-071328
   Manufacturer : IBM

5. Printer
   Product No. : C2642A
   Serial No. : TH86K1N2ZB
   Manufacturer : HP

6. Printer
   Product No. : P112A
   Serial No. : BDEK021838
   Manufacturer : Epson

7. Modem
   Product No. : V1456VQE
   Serial No. : 700V23100066865
   Manufacturer : Aski

8. USB Cable length 1.2m ×1

2. Test specifications

2.1 Test standard

The EUT was performed according to the procedures in FCC Part 15 Subpart C Section ♣15.207 ♣15.209 ♣15.247 and ANSI C63.4/1992.

2.2 Operation mode

The EUT transmitted continuously during all the tests.

2.3 Modifications required for compliance

No modification were installed during test performance to bring the product into compliance (Please note that this list does not include changes made specifically by Tecom Co., Ltd. Prior to compliance testing.)

2.4 Test equipment

Equipment	Brand	Frequency range	Model No.	Series No.	Cal.Date
EMI Receiver	Rohde & Schwarz	9kHz~2.75GHz	ESCS 30	825788/014	2001/05/29
Pulse Limiter	Rohde & Schwarz	9kHz~30MHz	ESH3-Z2	848.766/052	N/A
Spectrum Analyzer	Rohde & Schwarz	9kHz~30GHz	FSP 30	100137	2001/07/9
Horn Antenna	EMCO	1GHz~18GHz	3115	9906-5822	2001/09/10
Horn Antenna	SCHWARZBECK	14GHz~40GHz	BBHA 9170	159	2001/06/21
Bilog Antenna	SCHWARZBECK	25MHz~1.7GHz	VULB 9160	3111	2001/06/21
Turn Table	HDGmbH	N/A	DS 420S	420/669/01	N/A
Antenna Tower	HDGmbH	N/A	MA 240	240/573	N/A
RF Power Meter	Boonton	10kHz~100GHz	4230	27003	2001/06/12
Power Sensor	Boonton	30MHz~8GHz	51011-EMC	30395	2001/06/12
Power Sensor	Boonton	30MHz~8GHz	51011-EMC	30417	2001/06/12

Note:
1. The calibration interval of the above instruments is 12 months.

3. Modulated bandwidth test

3.1 Operating environment

Temperature: 24
Relative Humidity: 65 %

3.2 Test setup & procedure

The maximum 20dB bandwidth per FCC ♣15.247(a)(1)(i) was measured using a 50 ohm spectrum analyzer with the resolutions bandwidth set at 100 kHz, the video bandwidthγRBW, and the SPAN may equal to approximately 2 to 3 times the 20dB bandwidth. The test was performed at 3 channels (lowest, middle and highest channel). The maximum 20dB modulation bandwidth is in the following Table. See 20dB bandwidth plot as file name “20dB bandwidth plot.pdf”.

3.3 Measured data of modulated bandwidth test results

Channel	Frequency (MHz)	Bandwidth (KHz)	Limit
Low	2401.806	300	500kHz
Middle	2440.804	296	500kHz
High	2479.804	296	500kHz

The EUT has its hopping function disable.

4. Carrier frequency separation test

4.1 Operating environment

Temperature: 24
Relative Humidity: 65 %

4.2 Test setup & procedure

The carrier frequency separation per FCC ♣15.247(a)(1) was measured using a 50 ohm spectrum analyzer with the resolutions bandwidth set at γ1φof the span, the video bandwidthγRBW, and the SPAN was wide enough to capture the peaks of two adjacent channels. The carrier frequency separation result is in the following Table. See carrier frequency separation plot as file name "carrier frequency separation plot.pdf".

4.3 Measured data of carrier frequency separation test result

Channel	Frequency (MHz)	Measurement Frequency separation (MHz)
1	2402	0.988
2	2403	

The EUT has its hopping function enable.

5. Number of hopping frequencies test

5.1 Operating environment

Temperature: 24
Relative Humidity: 65 %

5.2 Test setup & procedure

The number of hopping frequencies per FCC ♣15.247(a)(1) was measured using a 50 ohm spectrum analyzer with the resolutions bandwidth set at γ1φof the span, the video bandwidthγRBW, and the SPAN was the frequency band of operation. The carrier frequency separation result is in the following Table. See number of hopping frequencies plot as file name “Number of hopping frequencies plot.pdf”.

5.3 Measured data of number of hopping frequencies test result

Frequency Range (MHz)	Number of hopping frequencies	Total hopping channels
2400 ~ 2428.5	27	79
2429 ~ 2454.5	26	
2455 ~ 2483.5	26	

The EUT has its hopping function enable.

6. Time of occupancy (Dwell time) test

6.1 Operating environment

Temperature: 24
Relative Humidity: 65 %

6.2 Test setup & procedure

The time of occupancy (Dwell time) per FCC ♣15.247(a)(1) was measured using a 50 ohm spectrum analyzer with the resolutions bandwidth set at 100kHz, the video bandwidthγRBW, and the zero span function of spectrum analyzer was enable, and then set the sweep time to 5 sec to detect the number of hoppings. The
EUT has its hopping function enable.

The time of occupancy (Dwell time) is (52 × 360us)(dwell time in 5 sec) × 6 = 112.32ms 0.4s in 30sec.

See dwell time plot as file name “dwell time plot.pdf”.

7. Peak power output test

7.1 Operating environment

Temperature: 24
Relative Humidity: 65 %

7.2 Test setup & procedure

The power output per FCC ♣15.247(b) was measured on the EUT using a 50 ohm SMA cable connected to spectrum analyzer. The RBW of spectrum analyzer set at 1MHz, span was set to 2MHz, record the highest power reading after the Maxhold function, cable loss correction (1 dB) was added to the reading. The test was performed at 3 channels (lowest, middle and highest channel). The Peak power measured result for modulated output power is in the following table.

See Peak power output plot as file name “peak power output plot.pdf”.

7.3 Measured data of peak power output test results

Channel	Frequency (MHz)	C.B.L. (dB)	Reading (dBm)	Power Output		Limit (W)
				(dBm)	(mW)	
Low	2401.796	1	10.38	11.38	13.74	1
Middle	2440.824	1	10.93	11.93	15.59	1
High	2479.78	1	10.91	11.91	15.52	1

The EUT has its hopping function disable.

Remark:
1. C.B.L.: cable loss
2. Power output (dBm) = C.B.L. (dB) + Reading (dBm)
3. Power output (mW) = $10^{(\text{Power output (dBm)}/10)}$

8. Antenna conducted spurious emission test

8.1 Operating environment

Temperature: 24
Relative Humidity: 65 %

8.2 Test setup & procedure

Antenna spurious emission per FCC 15.247 (c) was measured from the EUT antenna port using a 50ohm spectrum analyzer with the resolution bandwidth set at 100 kHz, and the video bandwidth set at γRBW.
Harmonics and spurious noise must be at least 20dB down from the highest emission level within the authorized band as measured with a 100 kHz RBW. The table below is the results from the highest emission for each channel within the authorized band. This table was used to determine the spurious limits for each channel. See RF Conducted Emission plot as file name "RF Conducted Emission plot.pdf".

8.3 Measured data of the highest conducted spurious emission test result

Channel	Frequency (MHz)	Emission level (dBm)	Limit
Low	2493.566	-32.26	-8.62
Middle	2533.83	-33.78	-8.07
High	741.98	-34.21	-8.09

Note: 1. Limit = peak power output – 20dB
2. All the other emissions were very low the limit.

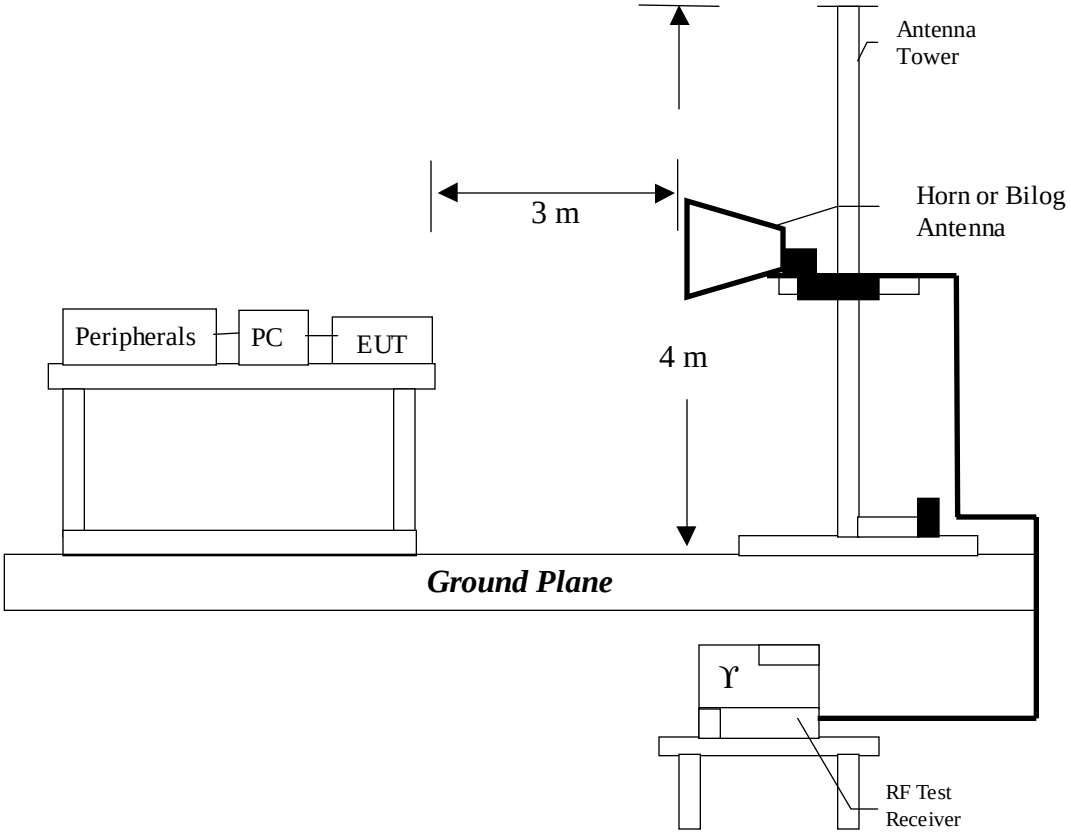
9. Radiated spurious emission test

9.1 Operating environment

Temperature: 18
Relative Humidity: 57 %

9.2 Test setup & procedure: The EUT is continuous transmitting

The Diagram below shows the test setup, which is utilized to make these measurements.



The signal is maximized through rotation and placement in the three orthogonal axes. The EUT and its peripherals are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.
Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4/1992 on radiated measurement. Radiated emission measurement were performed from 30MHz to 40GHz or to the tenth harmonic of the highest fundamental frequency, which is lower.
The bandwidth below 1GHz setting on the field strength meter (ESMI) is 120kHz and above 1GHz is 1MHz.

9.3 Emission limits

The spurious Emission shall test through the 10th harmonic. In addition, radiated emissions which fall in the restricted bands, as defined in ♣15.205(a), must also comply with the radiated emission limits specified in ♣15.209(a).

Frequency (MHz)	Limits (dB⌈V/m@3m)
30-88	40
88-216	43.5
216-960	46
Above 960	54

Remark:
1. In the above table, the tighter limit applies at the band edges.
2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system

Uncertainty was calculated in accordance with NAMAS NIS 81. In the General Radiated Emission Test, the uncertainty is within ±2.5dB

9.4 Radiated spurious emission test data

Worst case radiated emission
at High channel, 7440 MHz, margin: -2.04 dB

This is within the stated measurement uncertainty, this may affect compliance determined in other test arrangements.

EUT : BT3030
Test Mode : Transmit mode
Test Condition : Low channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Preamp (dB)	Correction Factor (dB/m)	Average Factor (dB)	Reading (dBuV)	Corrected Reading (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)
47.46	QP	V	0	8.29	0	13.03	21.32	40	-18.68
95.96	QP	V	0	10.17	0	11.07	21.24	43.5	-22.26
99.84	QP	V	0	10.56	0	12.60	23.16	43.5	-20.34
499.48	QP	V	0	20.01	0	6.81	26.82	46	-19.18
699.3	QP	V	0	24.93	0	9.36	34.29	46	-11.71
903.97	QP	V	0	26.98	0	10.62	37.60	46	-8.40
4804	PK	V	0	40.4	0	19.34	59.74	74	-14.26
4804	AV	V	0	40.4	0	11.09	51.49	54	-2.51
7206	PK	V	0	43.86	0	20.43	64.29	74	-9.71
7206	AV	V	0	43.86	0	8.07	51.93	54	-2.07
9608	PK	V	0	46.9	0	8.29	55.19	74	-18.81
9608	AV	V	0	46.9	0	2.13	49.03	54	-4.97
12010	PK	V	0	48.97	0	3.18	52.15	74	-21.85
12010	AV	V	0	48.97	0	-	-	54	-

The EUT has its hopping function disable.

Remark:
1.Corrected Level = Reading Level + Correction Factor Average Factor Preamp
2.Correction Factor = Antenna Factor + Cable Loss
3. All Readings below 1GHz are Peak, above are average value
4. All the Harmonics don't show on the above table were undetectable.
5. "-" means the value was undetectable.

EUT : BT3030
Test Mode : Transmit mode
Test Condition : Low channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Preamp (dB)	Correction Factor (dB/m)	Average Factor (dB)	Reading (dBuV)	Corrected Reading (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)
47.46	QP	H	0	8.29	0	8.84	17.13	40	-22.87
99.84	QP	H	0	10.56	0	11.94	22.50	43.5	-21.00
147.37	QP	H	0	10.8	0	8.80	19.60	43.5	-23.90
300.63	QP	H	0	15.82	0	6.55	22.37	46	-23.63
502.39	QP	H	0	20.09	0	8.35	28.44	46	-17.56
699.3	QP	H	0	24.93	0	8.42	33.35	46	-12.65
4804	PK	H	0	40.4	0	18.73	59.13	74	-14.87
4804	AV	H	0	40.4	0	10.24	50.64	54	-3.36
7206	PK	H	0	43.86	0	18.73	62.59	74	-11.41
7206	AV	H	0	43.86	0	7.33	51.19	54	-2.81
9608	PK	H	0	46.9	0	7.34	54.24	74	-19.76
9608	AV	H	0	46.9	0	1.98	48.88	54	-5.12
12010	PK	H	0	48.97	0	1.55	50.52	74	-23.48
12010	AV	H	0	48.97	0	-	-	54	-

The EUT has its hopping function disable.

Remark:
1.Corrected Level = Reading Level + Correction Factor Average Factor Preamp
2.Correction Factor = Antenna Factor + Cable Loss
3. All Readings below 1GHz are Peak, above are average value
4. All the Harmonics don’t show on the above table were undetectable.
5. “-“ means the value was undetectable.

EUT : BT3030
Test Mode : Transmit mode
Test Condition : Middle channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Preamp (dB)	Correction Factor (dB/m)	Average Factor (dB)	Reading (dBuV)	Corrected Reading (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)
47.46	QP	V	0	8.29	0	13.05	21.34	40	-18.66
95.96	QP	V	0	10.17	0	9.79	19.96	43.5	-23.54
99.84	QP	V	0	10.56	0	13.57	24.13	43.5	-19.37
502.39	QP	V	0	20.09	0	5.95	26.04	46	-19.96
699.3	QP	V	0	24.93	0	9.14	34.07	46	-11.93
903.97	QP	V	0	26.98	0	10.95	37.93	46	-8.07
4882	PK	V	0	40.4	0	18.2	58.6	74	-15.4
4882	AV	V	0	40.4	0	9.92	50.32	54	-3.68
7323	PK	V	0	43.86	0	19.97	63.83	74	-10.17
7323	AV	V	0	43.86	0	7.91	51.77	54	-2.23
9764	PK	V	0	46.9	0	9.97	56.87	74	-17.13
9764	AV	V	0	46.9	0	2.08	48.98	54	-5.02
12205	PK	V	0	48.97	0	3.33	52.3	74	-21.7
12205	AV	V	0	48.97	0	-	-	54	-

The EUT has its hopping function disable.

Remark:
1.Corrected Level = Reading Level + Correction Factor Average Factor Preamp
2.Correction Factor = Antenna Factor + Cable Loss
3. All Readings below 1GHz are Peak, above are average value
4. All the Harmonics don’t show on the above table were undetectable.
5. “-“ means the value was undetectable.

EUT : BT3030
Test Mode : Transmit mode
Test Condition : Middle channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Preamp (dB)	Correction Factor (dB/m)	Average Factor (dB)	Reading (dBuV)	Corrected Reading (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)
47.46	QP	H	0	8.29	0	9.33	17.62	40	-22.38
99.84	QP	H	0	10.56	0	10.39	20.95	43.5	-22.55
147.37	QP	H	0	10.56	0	9.53	20.33	43.5	-23.17
299.66	QP	H	0	15.79	0	7.86	23.65	46	-22.35
499.48	QP	H	0	20.01	0	9.73	29.74	46	-16.26
699.3	QP	H	0	24.93	0	8.33	33.26	46	-12.74
4882	PK	H	0	40.4	0	19.37	59.77	74	-14.23
4882	AV	H	0	40.4	0	9.34	49.74	54	-4.26
7323	PK	H	0	43.86	0	19.94	63.8	74	-10.2
7323	AV	H	0	43.86	0	8.02	51.88	54	-2.12
9764	PK	H	0	46.9	0	9.07	55.97	74	-18.03
9764	AV	H	0	46.9	0	2.33	49.23	54	-4.77
12205	PK	H	0	48.97	0	2.94	51.91	74	-22.09
12205	AV	H	0	48.97	0	-	-	54	-

The EUT has its hopping function disable.

Remark:
1.Corrected Level = Reading Level + Correction Factor Average Factor Preamp
2.Correction Factor = Antenna Factor + Cable Loss
3. All Readings below 1GHz are Peak, above are average value
4. All the Harmonics don’t show on the above table were undetectable.
5. “-“ means the value was undetectable.

EUT : BT3030
Test Mode : Transmit mode
Test Condition : High channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Preamp (dB)	Correction Factor (dB/m)	Average Factor (dB)	Reading (dBuV)	Corrected Reading (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)
47.46	QP	V	0	8.29	0	12.48	20.77	40	-19.23
299.66	QP	V	0	15.79	0	9.73	25.52	46	-20.48
502.39	QP	V	0	20.09	0	6.56	26.65	46	-19.35
703.18	QP	V	0	24.93	0	8.48	33.41	46	-12.59
903.97	QP	V	0	26.98	0	9.15	36.13	46	-9.87
912.7	QP	V	0	26.95	0	9.68	36.63	46	-9.37
4960	PK	V	0	40.4	0	21.34	61.74	74	-12.26
4960	AV	V	0	40.4	0	10.72	51.12	54	-2.88
7440	PK	V	0	43.86	0	18.34	62.2	74	-11.8
7440	AV	V	0	43.86	0	7.34	51.2	54	-2.8
9920	PK	V	0	46.9	0	8.24	55.14	74	-18.86
9920	AV	V	0	46.9	0	2.37	49.27	54	-4.73
12400	PK	V	0	48.97	0	3.1	52.07	74	-21.93
12400	AV	V	0	48.97	0	-	-	54	-

The EUT has its hopping function disable.

Remark:
1.Corrected Level = Reading Level + Correction Factor Average Factor Preamp
2.Correction Factor = Antenna Factor + Cable Loss
3. All Readings below 1GHz are Peak, above are average value
4. All the Harmonics don’t show on the above table were undetectable.
5. “-“ means the value was undetectable.

EUT : BT3030
Test Mode : Transmit mode
Test Condition : High channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Preamp (dB)	Correction Factor (dB/m)	Average Factor (dB)	Reading (dBuV)	Corrected Reading (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)
47.46	QP	H	0	8.29	0	8.05	16.34	40	-23.66
99.84	QP	H	0	10.56	0	10.70	21.26	43.5	-22.24
143.49	QP	H	0	10.56	0	9.22	19.78	43.5	-23.72
299.66	QP	H	0	15.79	0	9.10	24.89	46	-21.11
499.48	QP	H	0	20.01	0	8.55	28.56	46	-17.44
703.18	QP	H	0	24.93	0	7.61	32.54	46	-13.46
4960	PK	H	0	40.4	0	18.34	58.74	74	-15.26
4960	AV	H	0	40.4	0	10.51	50.91	54	-3.09
7440	PK	H	0	43.86	0	19.09	62.95	74	-11.05
7440	AV	H	0	43.86	0	8.1	51.96	54	-2.04
9920	PK	H	0	46.9	0	9.72	56.62	74	-17.38
9920	AV	H	0	46.9	0	2.11	49.01	54	-4.99
12400	PK	H	0	48.97	0	3.41	52.38	74	-21.62
12400	AV	H	0	48.97	0	-	-	54	-

The EUT has its hopping function disable.

Remark:
1.Corrected Level = Reading Level + Correction Factor Average Factor Preamp
2.Correction Factor = Antenna Factor + Cable Loss
3. All Readings below 1GHz are Peak, above are average value
4. All the Harmonics don’t show on the above table were undetectable.
5. “-“ means the value was undetectable.

10. Emission on the band edge §FCC 15.247(C)

In any 100kHz bandwidth outside the frequency band in which the spread spectrum 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.

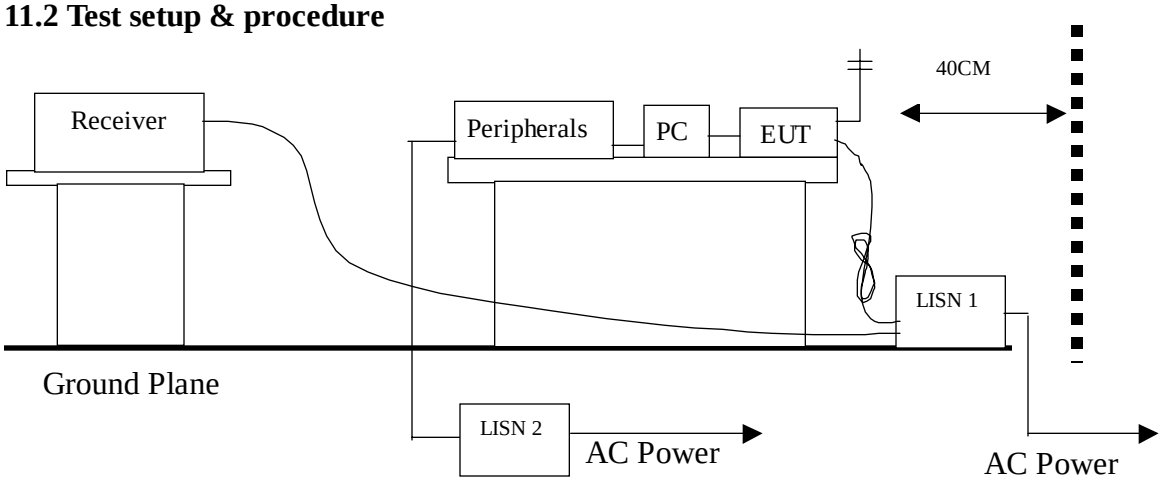
See band-edge plot as file name “band-edge plot.pdf”.

11. AC Line conducted emission §FCC 15.207

11.1 Operating environment

Temperature: 24
Relative Humidity: 65 %

11.2 Test setup & procedure



The EUT are connected to the main power through a line impedance stabilization network (LISN). This provides a 50 ohm/50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination.
Both sides (Line and Neutral) of AC line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4/1992 on conducted measurement.
The bandwidth of the field strength meter (R & S Test Receiver ESCS 30) is set at 9kHz.

See AC line conduction plot as file name “AC line conduction plot.pdf”.

Emission Limit

FCC Part 15 Paragraph 15.207		
Freq. (MHz)	Maximum RF Line Voltage	
	uV	dBuV
0.45 - 30	250	48.0

11.3 Conducted emission data

Worst case conducted emission
at Low Channel , Line 8.535MHz ,margin:-9.90 dB

This is within the stated measurement uncertainty, this may affect compliance determined in other test arrangements.

EUT : BT3030
Test Channel : Low channel
Test Mode : Transmit mode

Power Line (circle)	Freq. (MHz)	Reading (dB⌈V) QP	Limit (dB⌈V) QP	Margin (dB) QP
LINE	2.2	29.4	48	-18.60
LINE	3.435	29.2	48	-18.80
LINE	5.53	28.3	48	-19.70
LINE	7.3	37.6	48	-10.40
LINE	8.535	38.1	48	-9.90
LINE	12.93	28.6	48	-19.40
NEUTRAL	0.53	31.1	48	-16.90
NEUTRAL	0.618	32.3	48	-15.70
NEUTRAL	0.882	28.6	48	-19.40
NEUTRAL	0.97	30.6	48	-17.40
NEUTRAL	3.17	30.8	48	-17.20
NEUTRAL	7.034	32.3	48	-15.70
NEUTRAL	13.634	30.2	48	-17.80

The EUT has its hopping function disable.

Remark:
1. The reading value including cable loss and LISN factor.
2. Uncertainty was calculated in accordance with NAMAS NIS 81. In the Conducted Emission Test, the uncertainty is within ±2dB
3. The average measurement was not performed when the peak measured data under the limit of average detection.

EUT : BT3030
Test Channel : Middle channel
Test Mode : Transmit mode

Power Line (circle)	Freq. (MHz)	Reading (dB⌈V) QP	Limit (dB⌈V) QP	Margin (dB) QP
LINE	2.954	29.9	48	-18.10
LINE	3.17	32.3	48	-15.70
LINE	6.066	33	48	-15.00
LINE	7.034	35.6	48	-12.40
LINE	7.826	36.3	48	-11.70
LINE	8.97	35.4	48	-12.60
NEUTRAL	0.53	31.1	48	-16.90
NEUTRAL	0.618	32.2	48	-15.80
NEUTRAL	2.202	30.3	48	-17.70
NEUTRAL	3.434	30.5	48	-17.50
NEUTRAL	3.866	29	48	-19.00
NEUTRAL	7.034	32.7	48	-15.30
NEUTRAL	13.37	30.5	48	-17.50

The EUT has its hopping function disable.

Remark:
1. The reading value including cable loss and LISN factor.
2. Uncertainty was calculated in accordance with NAMAS NIS 81. In the Conducted Emission Test, the uncertainty is within ±2dB
3. The average measurement was not performed when the peak measured data under the limit of average detection.

EUT : BT3030
Test Channel : High channel
Test Mode : Transmit mode

Power Line (circle)	Freq. (MHz)	Reading (dB⌈V) QP	Limit (dB⌈V) QP	Margin (dB) QP
LINE	3.17	32.6	48	-15.40
LINE	3.434	32.5	48	-15.50
LINE	3.866	30.6	48	-17.40
LINE	7.034	36	48	-12.00
LINE	7.298	35.1	48	-12.90
LINE	8.53	35.7	48	-12.30
NEUTRAL	0.53	31.1	48	-16.90
NEUTRAL	0.618	32.2	48	-15.80
NEUTRAL	0.794	29.4	48	-18.60
NEUTRAL	2.202	33.4	48	-14.60
NEUTRAL	3.434	32.2	48	-15.80
NEUTRAL	7.034	32.6	48	-15.40
NEUTRAL	13.37	29.7	48	-18.30

The EUT has its hopping function disable.

Remark:
1. The reading value including cable loss and LISN factor.
2. Uncertainty was calculated in accordance with NAMAS NIS 81. In the Conducted Emission Test, the uncertainty is within ±2dB
3. The average measurement was not performed when the peak measured data under the limit of average detection.