



## **FCC Radio Test Report**

FCC ID: QISCAG-L03

This report concerns (check or	ne): ⊠Original Grant
Equipment : S  Model Name : C  Applicant : H  Address : A	1701C155K Smart Phone CAG-L03 Huawei Technologies Co.,Ltd. Administration Building, Headquarters of Huawei Fechnologies Co., Ltd., Bantian, Longgang District Shenzhen China
Date of Test : C Issued Date : C	Jan. 18, 2017 May 09, 2017 Jan. 18, 2017 ~ Feb. 27, 2017 May 14, 2017 ~ Jun, 05, 2017 Jan. 18, 2018 BTL Inc.
Testing Engineer	: Shawn Xiao)
Technical Manager	: David Mao (David Mao)
Authorized Signatory	: Seen Lu)

## BTL INC.

No.3, Jinshagang 1st Road, Shixia, Dalang Town, Dongguan, Guangdong, China.

TEL: +86-769-8318-3000 FAX: +86-769-8319-6000

TESTING
NVLAP LAB CODE 200788-0

Report No.: BTL-FCCP-1-1701C155K Page 1 of 141





#### **Declaration**

**BTL** represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

**BTL**'s reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **BTL** shall have no liability for any declarations, inferences or generalizations drawn by the client or others from **BTL** issued reports.

**BTL**'s report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

This report is the confidential property of the client. As a mutual protection to the clients, the public and **BTL-self**, extracts from the test report shall not be reproduced except in full with **BTL**'s authorized written approval.

**BTL**'s laboratory quality assurance procedures are in compliance with the **ISO Guide 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

#### Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

Report No.: BTL-FCCP-1-1701C155K Page 2 of 141





Table of Contents	Page
1 . CERTIFICATION	7
2 . SUMMARY OF TEST RESULTS	8
2.1 TEST FACILITY	9
2.2 MEASUREMENT UNCERTAINTY	9
3. GENERAL INFORMATION	10
3.1 GENERAL DESCRIPTION OF EUT	10
3.2 DESCRIPTION OF TEST MODES	13
3.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING	13
3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TES	TED 14
3.5 DESCRIPTION OF SUPPORT UNITS	14
4 . EMC EMISSION TEST	15
4.1 CONDUCTED EMISSION MEASUREMENT	15
4.1.1 POWER LINE CONDUCTED EMISSION LIMITS	15
4.1.2 TEST PROCEDURE 4.1.3 DEVIATION FROM TEST STANDARD	15 15
4.1.4 TEST SETUP	16
4.1.5 EUT OPERATING CONDITIONS	16
4.1.6 EUT TEST CONDITIONS	16
4.1.7 TEST RESULTS	16
4.2 RADIATED EMISSION MEASUREMENT 4.2.1 RADIATED EMISSION LIMITS	17 17
4.2.2 TEST PROCEDURE	18
4.2.3 DEVIATION FROM TEST STANDARD	18
4.2.4 TEST SETUP	19
4.2.5 EUT OPERATING CONDITIONS	21
4.2.6 EUT TEST CONDITIONS 4.2.7 TEST RESULTS (9KHZ TO 30MHZ)	21 21
4.2.8 TEST RESULTS (30MHZ TO 1000 MHZ)	21
4.2.9 TEST RESULTS (ABOVE 1000 MHZ)	21
5 . NUMBER OF HOPPING CHANNEL	22
5.1 APPLIED PROCEDURES	22
5.1.1 TEST PROCEDURE	22
5.1.2 DEVIATION FROM STANDARD	22
5.1.3 TEST SETUP 5.1.4 EUT OPERATION CONDITIONS	22 22
5.1.5 EUT TEST CONDITIONS	22
5.1.6 TEST RESULTS	22

Report No.: BTL-FCCP-1-1701C155K





Table of Contents	Page
6 . AVERAGE TIME OF OCCUPANCY	23
6.1 APPLIED PROCEDURES / LIMIT	23
6.1.1 TEST PROCEDURE	23
6.1.2 DEVIATION FROM STANDARD	23
6.1.3 TEST SETUP	23
6.1.4 EUT OPERATION CONDITIONS 6.1.5 EUT TEST CONDITIONS	24 24
6.1.6 TEST RESULTS	24
7 . HOPPING CHANNEL SEPARATION MEASUREMENT	25
7.1 APPLIED PROCEDURES / LIMIT	25
7.1.1 TEST PROCEDURE	25
7.1.2 DEVIATION FROM STANDARD	25
7.1.3 TEST SETUP	25
7.1.4 EUT TEST CONDITIONS	25
7.1.5 TEST RESULTS	25
8 . BANDWIDTH TEST	26
8.1 APPLIED PROCEDURES	26
8.1.1 TEST PROCEDURE	26
8.1.2 DEVIATION FROM STANDARD 8.1.3 TEST SETUP	26
8.1.4 EUT OPERATION CONDITIONS	26 26
8.1.5 EUT TEST CONDITIONS	26
8.1.6 TEST RESULTS	26
9 . PEAK OUTPUT POWER TEST	27
9.1 APPLIED PROCEDURES / LIMIT	27
9.1.1 TEST PROCEDURE	27
9.1.2 DEVIATION FROM STANDARD	27
9.1.3 TEST SETUP 9.1.4 EUT OPERATION CONDITIONS	27
9.1.4 EUT OPERATION CONDITIONS 9.1.5 EUT TEST CONDITIONS	27 27
9.1.6 TEST RESULTS	27
10 . ANTENNA CONDUCTED SPURIOUS EMISSION	28
10.1 APPLIED PROCEDURES / LIMIT	28
10.1.1 TEST PROCEDURE	28
10.1.2 DEVIATION FROM STANDARD	28
10.1.3 TEST SETUP	28
10.1.4 EUT OPERATION CONDITIONS	28
10.1.5 EUT TEST CONDITIONS	28
10.1.6 TEST RESULTS	28
11 . MEASUREMENT INSTRUMENTS LIST	29

Report No.: BTL-FCCP-1-1701C155K





Table of Contents	Page
ATTACHMENT A - CONDUCTED EMISSION	31
ATTACHMENT B - RADIATED EMISSION (9KHZ-30MHZ)	38
ATTACHMENT C - RADIATED EMISSION (30MHZ TO 1000MHZ)	51
ATTACHMENT D - RADIATED EMISSION (ABOVE 1000MHZ)	64
ATTACHMENT E - NUMBER OF HOPPING CHANNEL	97
ATTACHMENT F - AVERAGE TIME OF OCCUPANCY	99
ATTACHMENT G - HOPPING CHANNEL SEPARATION MEASUREMENT	112
ATTACHMENT H - BANDWIDTH	117
ATTACHMENT I - PEAK OUTPUT POWER	122
ATTACHMENT J - ANTENNA CONDUCTED SPURIOUS EMISSION	127

Report No.: BTL-FCCP-1-1701C155K Page 5 of 141





## **REPORT ISSUED HISTORY**

Issued No.	Description	Issued Date
BTL-FCCP-1-1701C155	Original Report	Feb. 28, 2017
BTL-FCCP-1-1701C155A	Compared with the original report (BTL-FCCP-1-1701C155), the model CRO-L23 is added and differences please see the below table. According to the differences description below table, CRO-L23 shares the same test data of CRO-L03 of the same bands which does not affect the test results of the test report.	Mar. 23, 2017
BTL-FCCP-1-1701C155E  Compared with the original report (BTL-FCCP-1-1701C155A), the antenna is changed and battery, earphone are added. Radiated Spurious Emissions had been evalund recorded in the test report, the rest are same.		Jun. 06, 2017
BTL-FCCP-1-1701C155K	Compared with previous report (BTL-FCCP-1-1701C155E) 1. Changed FCC ID. 2. Changed model name CRO-L03, CRO-L23 to CAG-L03. (Only differ in Android Edition) The changes do not affect the test results, the rest are kept the same.	Jan. 18, 2018

Report No.: BTL-FCCP-1-1701C155K Page 6 of 141





#### 1. CERTIFICATION

Equipment : Smart Phone Brand Name : HUAWEI Model Name : CAG-L03

Applicant : Huawei Technologies Co.,Ltd. Manufacturer : Huawei Technologies Co.,Ltd.

Address : Administration Building, Headquarters of Huawei Technologies Co., Ltd.,

Bantian, Longgang District Shenzhen China

Factory: Huawei Technologies Co.,Ltd.

Address : Administration Building, Headquarters of Huawei Technologies Co., Ltd.,

Bantian, Longgang District Shenzhen China

Date of Test : Jan. 18, 2017 ~ Feb. 27, 2017

May 14, 2017 ~ Jun, 05, 2017

Test Sample: Engineering Sample

Standard(s) : FCC Part15, Subpart C (15.247)/ ANSI C63.10-2013

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.

The test data, data evaluation, and equipment configuration contained in our test report (Ref No. BTL-FCCP-1-1701C155K) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of NVLAP according to the ISO-17025 quality assessment standard and technical standard(s).

Report No.: BTL-FCCP-1-1701C155K Page 7 of 141





## 2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

Applied Standard(s): FCC Part15, Subpart C (15.247)				
Standard(s) Section	Judgment	Remark		
15.207	Conducted Emission	PASS		
15.247(d)	Antenna conducted Spurious Emission	PASS		
15.247 (a)(1)	Hopping Channel Separation	PASS		
15.247(a)(1)	Bandwidth	PASS		
15.247 (b)(1)	Peak Output Power	PASS		
15.247(d) 15.209	Radiated Spurious Emission	PASS		
15.247 (a)(1)(iii)	Number of Hopping Frequency	PASS		
15.247 (a)(1)(iii)	Dwell Time	PASS		
15.205	Restricted Bands	PASS		
15.203	Antenna Requirement	PASS		

Note:

(1)" N/A" denotes test is not applicable in this test report

Report No.: BTL-FCCP-1-1701C155K Page 8 of 141





#### 2.1 TEST FACILITY

The test facilities used to collect the test data in this report is at the location of No.3, Jinshagang 1st Road, Shixia, Dalang Town, Dongguan, Guangdong, China.

BTL's test firm number for FCC: 854385 BTL's designation number for FCC: CN5020

#### 2.2 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. The measurement instrumentation uncertainty considerations contained in CISPR 16-4-2.

The reported uncertainty of measurement  $\mathbf{y} \pm \mathbf{U}$ , where expanded uncertainty  $\mathbf{U}$  is based on a standard uncertainty multiplied by a coverage factor of  $\mathbf{k=2}$ , providing a level of confidence of approximately 95 %.

#### A. Conducted Measurement:

Test Site	Method	Measurement Frequency Range	U, (dB)
DG-C02	CISPR	150 KHz ~ 30MHz	2.32

#### B. Radiated Measurement:

Test Site	Method	Measurement Frequency Range	Ant. H / V	U, (dB)
	CISPR	9KHz~30MHz	V	3.79
		9KHz~30MHz	Н	3.57
		30MHz ~ 200MHz	V	3.82
		30MHz ~ 200MHz	Ι	3.78
DG-CB03		200MHz ~ 1,000MHz	V	4.10
DG-CB03		200MHz ~ 1,000MHz	Ι	4.06
		1GHz~18GHz	V	3.12
		1GHz~18GHz		3.68
		18GHz~40GHz	V	4.15
		18GHz~40GHz	Н	4.14

#### C. Other Measurement:

Test Item	Uncertainty
Conducted Spurious Emission	2.67dB
Hopping Channel Separation	53.46MHz
Peak Output Power	0.95dB
Number of Hopping Frequency	53.46MHz
Temperature	0.08℃
Humidity	1.5%

Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

Report No.: BTL-FCCP-1-1701C155K Page 9 of 141





## 3. GENERAL INFORMATION

## 3.1 GENERAL DESCRIPTION OF EUT

Equipment	Smart Phone			
Brand Name	HUAWEI			
Model Name	CAG-L03			
Model Difference	N/A			
	Operation Frequency	2402~2480 MHz		
	Modulation Technology	GFSK(1Mbps)		
Output Power (Max.)	Bit Rate of Transmitter	$\pi$ /4-DQPSK(2Mbps) 8-DPSK(3Mbps)		
	Output Power Max.	7.52 dBm(1Mbps) 6.95 dBm(3Mbps)		
Power Source	#1 DC Voltage supplied from AC/DC adapter. #2 Battery Supplied.			
Power Rating	#1:AC 100–240V 50/60Hz DC 5V 1A #2:DC 3.82V 2200mAh			
HW Version	HL1CROM			
SW Version	Cairo-L03C469B015			

Report No.: BTL-FCCP-1-1701C155K Page 10 of 141





## Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

2.

Item	Mfr/Brand	Model.	
	SCUD (FUJIAN) Electronics Co., Ltd	HB3742A0EZC+	
Battery	Shenzhen Desay Battery Tech Co., Ltd.		
	Sunwoda Electronic Co.,LTD.		
	FOXCONN INTERCONNECT TECHNOLOGY LIMITED	CUBB01M-HC208-DH	
USB Cable	HONGLIN TECHNOLOGY CO.,LTD	130-26654	
	Luxshare Precision Industry Co., Ltd.	L99U2013-CS-H	
	Jiangxi Lianchuang Hongsheng Electronic Co.,LTD	MEMD1632B580C00	
	BOLUO COUNTY QUANCHENG ELECTRONIC CO.,LTD	1311-3291-3.5mm-229	
	MERRY ELECTRONICS CO., LTD.	EMC309-001	
Earphone	Jiangxi Lianchuang Hongsheng Electronic Co.,LTD (Black)	MEMD1532B528000	
	BOLUO COUNTY QUANCHENG ELECTRONIC CO.,LTD (Black)	1293#+3283# 3.5MM-150	
	GoerTek (Black),	HA1-3	
	GoerTek (White)	NA12	
	HUIZHOU BYD ELECTRONIC CO., LTD.		
Adapter	Shenzhen Huntkey Electric Co., Ltd.	HW-050100U01	
	DONG GUAN PHITEK ELECTRONICS CO., LTD.		

Report No.: BTL-FCCP-1-1701C155K Page 11 of 141





## 2. Channel List:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
00	2402	27	2429	54	2456
01	2403	28	2430	55	2457
02	2404	29	2431	56	2458
03	2405	30	2432	57	2459
04	2406	31	2433	58	2460
05	2407	32	2434	59	2461
06	2408	33	2435	60	2462
07	2409	34	2436	61	2463
08	2410	35	2437	62	2464
09	2411	36	2438	63	2465
10	2412	37	2439	64	2466
11	2413	38	2440	65	2467
12	2414	39	2441	66	2468
13	2415	40	2442	67	2469
14	2416	41	2443	68	2470
15	2417	42	2444	69	2471
16	2418	43	2445	70	2472
17	2419	44	2446	71	2473
18	2420	45	2447	72	2474
19	2421	46	2448	73	2475
20	2422	47	2449	74	2476
21	2423	48	2450	75	2477
22	2424	49	2451	76	2478
23	2425	50	2452	77	2479
24	2426	51	2453	78	2480
25	2427	52	2454		
26	2428	53	2455		

## 3 Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	N/A	N/A	Internal	N/A	2.14

Report No.: BTL-FCCP-1-1701C155K Page 12 of 141





#### 3.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	TX Mode Note (1)

The EUT system operated these modes were found to be the worst case during the pre-scanning test as following:

For Conducted Emission		
Final Test Mode	Description	
Mode 1	TX Mode	

For Radiated Emission		
Final Test Mode Description		
Mode 1 TX Mode Note (1)		

#### Note:

- (1) The measurements are performed at the high, middle, low available channels.
- (2) The measurements for Hopping Channel Separation, Bandwidth and Peak Output Power were tested during 1Mbps, 2Mbps and 3Mbps, the worst case are 1Mbps and 3Mbps, only worst case was documented.

#### 3.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING

During testing, channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of FHSS

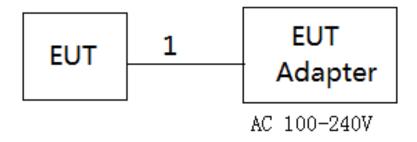
Test Software Version		N/A	
Frequency	2402 MHz	2441 MHz	2480 MHz
Parameters(1Mbps)	7	7	7
Parameters(3Mbps)	7	7	7

Report No.: BTL-FCCP-1-1701C155K Page 13 of 141





#### 3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



## 3.5 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID	Series No.
-	-	-	-	-	-

Item	Shielded Type	Ferrite Core	Length	Note
1	NO	NO	1.2m	USB Cable

Report No.: BTL-FCCP-1-1701C155K Page 14 of 141





#### 4. EMC EMISSION TEST

#### 4.1 CONDUCTED EMISSION MEASUREMENT

#### 4.1.1 POWER LINE CONDUCTED EMISSION LIMITS (Frequency Range 150KHz-30MHz)

Frequency of Emission (MHz)	Conducted Limit (dBµV)		
Frequency of Emission (MHz)	Quasi-peak	Average	
0.15 -0.50	66 to 56*	56 to 46*	
0.50 -5.0	56	46	
5.0 -30.0	60	50	

#### Note:

(1) The limit of " \* " decreases with the logarithm of the frequency

(2) The test result calculated as following: Measurement Value = Reading Level + Correct Factor Correct Factor = Insertion Loss + Cable Loss + Attenuator Factor(if use) Margin Level = Measurement Value - Limit Value

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 KHz

#### 4.1.2 TEST PROCEDURE

- a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipment powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

#### 4.1.3 DEVIATION FROM TEST STANDARD

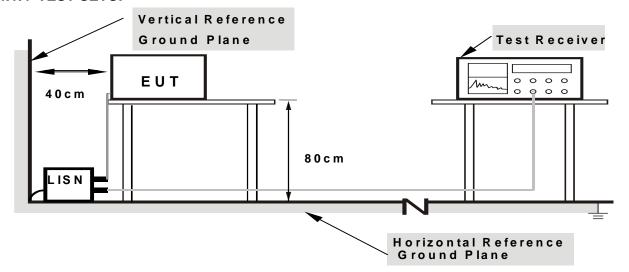
No deviation

Report No.: BTL-FCCP-1-1701C155K Page 15 of 141





#### 4.1.4 TEST SETUP



Note: 1.Support units were connected to second LISN.

2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

#### 4.1.5 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical function (as a customer would normally use it), EUT was programmed to be in continuously transmitting/receiving data or hopping on mode.

#### 4.1.6 EUT TEST CONDITIONS

Temperature: 25°C Relative Humidity: 55% Test Voltage: AC 120V/60Hz

### 4.1.7 TEST RESULTS

Please refer to the Attachment A.

#### Remark:

- (1) All readings are QP Mode value unless otherwise stated AVG in column of Note. If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform in this case, a "\*" marked in AVG Mode column of Interference Voltage Measured.
- (2) Measuring frequency range from 150KHz to 30MHz.

Report No.: BTL-FCCP-1-1701C155K Page 16 of 141





#### **4.2 RADIATED EMISSION MEASUREMENT**

#### 4.2.1 RADIATED EMISSION LIMITS (Frequency Range 9KHz -1000MHz)

In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequency	Field Strength	Measurement Distance
(MHz)	(microvolts/meter)	(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

#### LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

Eroguanay (MHz)	Band edge at 3m (dBµV/m)		Harmonic at 1.5m (dBµV/m)	
Frequency (MHz)	Peak	Average	Peak	Average
Above 1000	74	54	80 (Note 5)	60(Note 5)

#### Notes:

- (1) The limit for radiated test was performed according to FCC PART 15C/RSS-247.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).
- (4) The test result calculated as following: Measurement Value = Reading Level + Correct Factor Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain(if use) Margin Level = Measurement Value - Limit Value

$$FS_{\text{limit}} = FS_{\text{max}} - 20\log\left(\frac{d_{\text{limit}}}{d_{\text{measure}}}\right)$$

20log d limit/d measure=20log 3/1.5=6dB.

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

Report No.: BTL-FCCP-1-1701C155K Page 17 of 141





Spectrum Parameter	Setting	
Attenuation	Auto	
Start Frequency	1000 MHz	
Stop Frequency	10th carrier harmonic	
RBW / VBW	4 Mile / 4 Mile for Dools 4 Mile / 401 le for Asserta	
(emission in restricted band)	1 MHz / 1 MHz for Peak, 1 MHz / 10Hz for Average	

Spectrum Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9KHz ~90KHz for PK/AVG detector
Start ~ Stop Frequency	90KHz ~110KHz for QP detector
Start ~ Stop Frequency	110KHz ~490KHz for PK/AVG detector
Start ~ Stop Frequency	490KHz ~30MHz for QP detector
Start ~ Stop Frequency	30MHz~1000MHz for QP detector

#### **4.2.2 TEST PROCEDURE**

- a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- b. The measuring distance of 3 m or 1.5m shall be used for measurements. The EUT was placed on the top of a rotating table 1.5 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1GHz)
- c. The height of the equipment or of the substitution antenna shall be 0.8m or 1.5m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights find the maximum reading (used Bore sight function).
- e. The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1GHz.
- f. The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- g. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform. (below 1GHz)
- h. All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn't perform. (above 1GHz)
- i. For the actual test configuration, please refer to the related Item –EUT Test Photos.

#### 4.2.3 DEVIATION FROM TEST STANDARD

No deviation

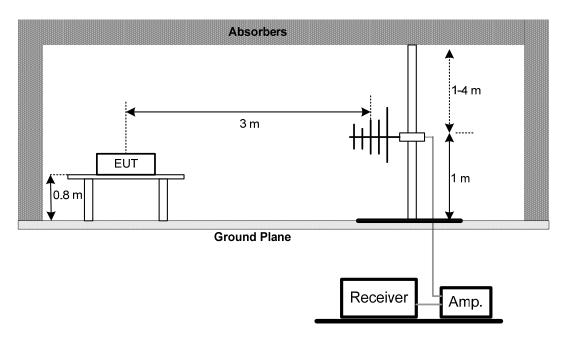
Report No.: BTL-FCCP-1-1701C155K Page 18 of 141





## 4.2.4 TEST SETUP

(A) Radiated Emission Test Set-Up Frequency Below 1 GHz

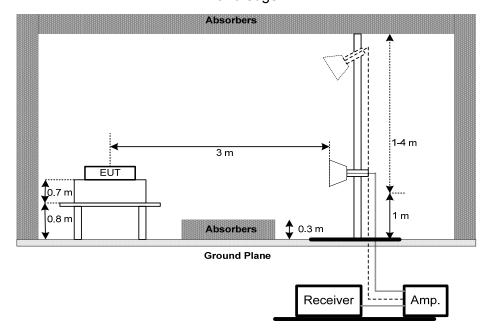


Report No.: BTL-FCCP-1-1701C155K Page 19 of 141

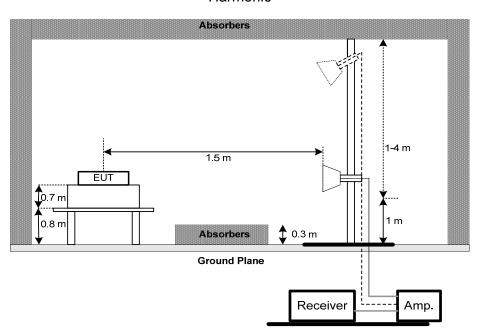




# (B) Radiated Emission Test Set-Up Frequency Above 1 GHz Band edge



## Harmonic

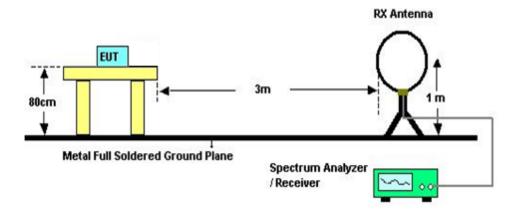


Report No.: BTL-FCCP-1-1701C155K Page 20 of 141





## (C) For Radiated Emissions Below 30MHz



#### 4.2.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

#### 4.2.6 EUT TEST CONDITIONS

Temperature: 25°C Relative Humidity: 55% Test Voltage: AC 120V/60Hz

## 4.2.7 TEST RESULTS (9KHZ TO 30MHZ)

Please refer to the Attachment B

#### Remark:

- (1) The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
- (2) Distance extrapolation factor = 40 log (specific distance / test distance) (dB).
- (3) Limit line = specific limits (dBuV) + distance extrapolation factor.

## 4.2.8 TEST RESULTS (30MHZ TO 1000 MHZ)

Please refer to the Attachment C.

#### 4.2.9 TEST RESULTS (ABOVE 1000 MHZ)

Please refer to the Attachment D.

#### Remark:

(1) No limit: This is fundamental signal, the judgment is not applicable. For fundamental signal judgment was referred to Peak output test.

Report No.: BTL-FCCP-1-1701C155K Page 21 of 141





#### 5. NUMBER OF HOPPING CHANNEL

#### **5.1 APPLIED PROCEDURES**

FCC Part15 (15.247) , Subpart C			
Section	Test Item	Frequency Range (MHz)	Result
15.247(a)(1)(iii)	Number of Hopping Channel	2400-2483.5	PASS

Spectrum Parameters	Setting	
Attenuation	Auto	
Span Frequency	> Operating Frequency Range	
RBW	100 KHz	
VBW	100 KHz	
Detector	Peak	
Trace	Max Hold	
Sweep Time	Auto	

#### **5.1.1 TEST PROCEDURE**

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- b. Spectrum Setting: RBW=100KHz, VBW=100KHz, Sweep time = Auto.

#### **5.1.2 DEVIATION FROM STANDARD**

No deviation.

#### **5.1.3 TEST SETUP**



#### **5.1.4 EUT OPERATION CONDITIONS**

The EUT tested system was configured as the statements of 4.1.5 unless otherwise a special operating condition is specified in the follows during the testing.

#### **5.1.5 EUT TEST CONDITIONS**

Temperature: 25°C Relative Humidity: 55% Test Voltage: AC 120V/60Hz

#### 5.1.6 TEST RESULTS

Please refer to the Attachment E

Report No.: BTL-FCCP-1-1701C155K Page 22 of 141





#### 6. AVERAGE TIME OF OCCUPANCY

#### **6.1 APPLIED PROCEDURES / LIMIT**

OT ALL ELEST REGELECTEMENT				
FCC Part15 (15.247) , Subpart C				
Section Test Item Limit Frequency Range (MHz) Result				
15.247(a)(1)(iii)	Average Time of Occupancy	0.4sec	2400-2483.5	PASS

#### 6.1.1 TEST PROCEDURE

- a. The transmitter output (antenna port) was connected to the spectrum analyzer
- b. Set RBW of spectrum analyzer to 1MHz and VBW to 1MHz.
- C. Use a video trigger with the trigger level set to enable triggering only on full pulses.
- d. Sweep Time is more than once pulse time.
- e. Set the center frequency on any frequency would be measure and set the frequency span to zero span.
- f. Measure the maximum time duration of one single pulse.
- q. Set the EUT for DH5, DH3 and DH1 packet transmitting.
- h. Measure the maximum time duration of one single pulse.
- i. DH5 Packet permit maximum 1600/79/6 = 3.37 hops per second in each channel (5 time slots TX, 1 time slot RX). So, the dwell time is the time duration of the pulse times  $3.37 \times 31.6 = 106.6$  within 31.6 seconds.
- j. DH3 Packet permit maximum 1600 / 79 / 4 = 5.06 hops per second in each channel (3 time slots TX, 1 time slot RX). So, the dwell time is the time duration of the pulse times 5.06 x 31.6 = 160 within 31.6 seconds.
- k. DH1 Packet permit maximum 1600 / 79 /2 = 10.12 hops per second in each channel (1 time slot TX, 1 time slot RX). So, the dwell time is the time duration of the pulse times 10.12 x 31.6 = 320 within 31.6 seconds.

#### 6.1.2 DEVIATION FROM STANDARD

No deviation.

#### 6.1.3 TEST SETUP

EUT	SPECTRUM
	ANALYZER

Report No.: BTL-FCCP-1-1701C155K Page 23 of 141





#### **6.1.4 EUT OPERATION CONDITIONS**

The EUT tested system was configured as the statements of 4.1.5 unless otherwise a special operating condition is specified in the follows during the testing.

## **6.1.5 EUT TEST CONDITIONS**

Temperature: 25°C Relative Humidity: 55% Test Voltage: AC 120V/60Hz

#### 6.1.6 TEST RESULTS

Please refer to the Attachment F

Report No.: BTL-FCCP-1-1701C155K Page 24 of 141





#### 7. HOPPING CHANNEL SEPARATION MEASUREMENT

#### 7.1 APPLIED PROCEDURES / LIMIT

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.

Spectrum Parameter	Setting	
Attenuation	Auto	
Span Frequency	> Measurement Bandwidth or Channel Separation	
RBW	30 KHz	
VBW	100 KHz	
Detector	Peak	
Trace	Max Hold	
Sweep Time	Auto	

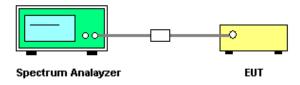
#### 7.1.1 TEST PROCEDURE

- a. The EUT must have its hopping function enabled
- b. 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

#### 7.1.2 DEVIATION FROM STANDARD

No deviation.

#### 7.1.3 TEST SETUP



#### 7.1.4 EUT TEST CONDITIONS

Temperature: 25°C Relative Humidity: 55% Test Voltage: AC 120V/60Hz

### 7.1.5 TEST RESULTS

Please refer to the Attachment G

Report No.: BTL-FCCP-1-1701C155K Page 25 of 141





#### 8. BANDWIDTH TEST

#### **8.1 APPLIED PROCEDURES**

FCC Part15 (15.247) , Subpart C		
Section	Test Item	Frequency Range (MHz)
15.247(a)(2)	Bandwidth	2400-2483.5

Spectrum Parameter	Setting	
Attenuation	Auto	
Span Frequency	> Measurement Bandwidth or Channel Separation	
RBW	30 KHz (20dB Bandwidth) / 30 KHz (Channel Separation)	
VBW	100 KHz (20dB Bandwidth) / 100 KHz (Channel Separation)	
Detector	Peak	
Trace	Max Hold	
Sweep Time	Auto	

#### **8.1.1 TEST PROCEDURE**

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- b. Spectrum Setting: RBW= 30KHz, VBW=100KHz, Sweep Time = Auto.

#### **8.1.2 DEVIATION FROM STANDARD**

No deviation.

#### 8.1.3 TEST SETUP

EUT	SPECTRUM
	ANALYZER

#### **8.1.4 EUT OPERATION CONDITIONS**

The EUT tested system was configured as the statements of 4.1.5 unless otherwise a special operating condition is specified in the follows during the testing.

## **8.1.5 EUT TEST CONDITIONS**

Temperature: 25°C Relative Humidity: 55% Test Voltage: AC 120V/60Hz

#### 8.1.6 TEST RESULTS

Please refer to the Attachment H

Report No.: BTL-FCCP-1-1701C155K Page 26 of 141





#### 9. PEAK OUTPUT POWER TEST

#### 9.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(b)(1)	Peak Output Power	1 Watt or 30dBm (hopping channel >75) 0.125Watt or 21dBm (hopping channel <75	2400-2483.5	PASS

#### 9.1.1 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- b. Spectrum Setting: RBW= 1MHz/3MHz, VBW= 1MHz/3MHz, Sweep time = Auto.

#### 9.1.2 DEVIATION FROM STANDARD

No deviation.

#### 9.1.3 TEST SETUP

EUT	SPECTRUM
	ANALYZER

#### 9.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.5 unless otherwise a special operating condition is specified in the follows during the testing.

#### 9.1.5 EUT TEST CONDITIONS

Temperature: 25°C Relative Humidity: 55% Test Voltage: AC 120V/60Hz

## 9.1.6 TEST RESULTS

Please refer to the Attachment I

Report No.: BTL-FCCP-1-1701C155K Page 27 of 141





#### 10. ANTENNA CONDUCTED SPURIOUS EMISSION

#### 10.1 APPLIED PROCEDURES / LIMIT

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced 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, provided that the transmitter demonstrates compliance with the peak conducted power limits.

#### **10.1.1 TEST PROCEDURE**

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- b. Spectrum Setting: RBW= 100KHz, VBW=100KHz, Sweep time = Auto.
- c. Offset=antenna gain+cable loss

#### 10.1.2 DEVIATION FROM STANDARD

No deviation.

#### **10.1.3 TEST SETUP**

EUT	SPECTRUM
	ANALYZER

#### 10.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.5 unless otherwise a special operating condition is specified in the follows during the testing.

#### **10.1.5 EUT TEST CONDITIONS**

Temperature: 25°C Relative Humidity: 55% Test Voltage: AC 120V/60Hz

#### 10.1.6 TEST RESULTS

Please refer to the Attachment J

Report No.: BTL-FCCP-1-1701C155K Page 28 of 141





## 11. MEASUREMENT INSTRUMENTS LIST

	Conducted Emission Measurement								
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until				
1	EMI Test Receiver	R&S	ESCI	100382	Mar. 26, 2018				
2	LISN	EMCO	3816/2	52765	Mar. 26, 2018				
3	50Ω Terminator	SHX	TF2-3G-A	8122901	Mar. 26, 2018				
4	TWO-LINE V-NETWORK	R&S	ENV216	101447	Mar. 26, 2018				
5	Cable	emci	RG223(9KHz-30 MHz)(5m)	N/A	Mar. 09, 2018				
6	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A				

	Radiated Emission Measurement - Below 1GHz								
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until				
1	Antenna	Schwarbeck	VULB9160	9160-3232	Mar. 26, 2018				
2	Amplifier	HP	8447D	2944A09673	Aug. 20, 2018				
3	Receiver	Agilent	N9038A	MY52130039	Aug. 20, 2018				
4	Cable	emci	LMR-400(30MHz-1 GHz)(8m+5m)	N/A	Jun. 26, 2018				
5	Controller	CT	SC100	N/A	N/A				
6	Controller	MF	MF-7802	MF780208416	N/A				
7	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A N/A					
8	Antenna	EM	EM-6876-1	230	Mar. 06, 2018				

	Radiated Emission Measurement - Above 1GHz									
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until					
1	Double Ridged Guide Antenna	ETS	3115	75789	Mar. 26, 2018					
2	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Jun. 08, 2018					
3	Amplifier	Agilent	8449B	3008A02274	May 16, 2018					
4	Microwave Preamplifier With Adaptor	EMC INSTRUMENT	EMC2654045	980039 & HA01	Mar. 26, 2018					
5	Receiver	Agilent	N9038A	MY52130039	Aug. 20, 2018					
6	Controller	СТ	SC100	N/A	N/A					
7	Controller	MF	MF-7802	MF780208416	N/A					
8	Cable	emci	EMC104-SM-SM-1 2000(12m)	N/A	Jun. 26, 2018					
9	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A					

Report No.: BTL-FCCP-1-1701C155K Page 29 of 141





Number of Hopping Channel							
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until		
1	Spectrum Analyzer	R&S	FSP40	100185	Sep. 04, 2017		

Average Time of Occupancy						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until	
1	Spectrum Analyzer	R&S	FSP40	100185	Sep. 04, 2017	

Hopping Channel Separation Measurement						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until	
1	Spectrum Analyzer	R&S	FSP40	100185	Sep. 04, 2017	

Bandwidth							
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until		
1	Spectrum Analyzer	R&S	FSP40	100185	Sep. 04, 2017		

Peak Output Power						
	Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
	1	Spectrum Analyzer	R&S	FSP40	100185	Sep. 04, 2017

Antenna Conducted Spurious Emission							
Ite	em	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until	
•	1	Spectrum Analyzer	R&S	FSP40	100185	Sep. 04, 2017	

Remark: "N/A" denotes no model name, serial no. or calibration specified.

All calibration period of equipment list is one year.

Report No.: BTL-FCCP-1-1701C155K Page 30 of 141





ATTACHMENT A - CONDUCTED EMISSION

Report No.: BTL-FCCP-1-1701C155K Page 31 of 141



3 \*

4

5

6

7

0.605

0.605

1.315

10.009

18.132

33.37

17.64

30.83

30.52

32.86

9.71

9.71

9.76

10.27

10.70

43.08

27.35

40.59

40.79

43.56

56.00

46.00

56.00

60.00

60.00

-12.92

-18.65

-15.41

-19.21

-16.44

peak

AVG

peak

peak

peak



Test Mode: TX Mode Adapter: BYD Line 80.0 dBuV70 60 50 40 30 20 10 0.0 0.150 0.5 (MHz) 5 30.000 Reading Correct Measure-Limit No. Mk. Margin Freq. Level Factor ment MHz dBuV dB dBuV dBuV dB Detector Comment 0.181 29.24 9.68 38.92 64.42 -25.50 peak 2 0.389 28.45 9.68 38.13 58.10 -19.97 peak

D 1 A I -	DTL E00D 4 470404EEK	
Report No	BTL-FCCP-1-1701C155K	





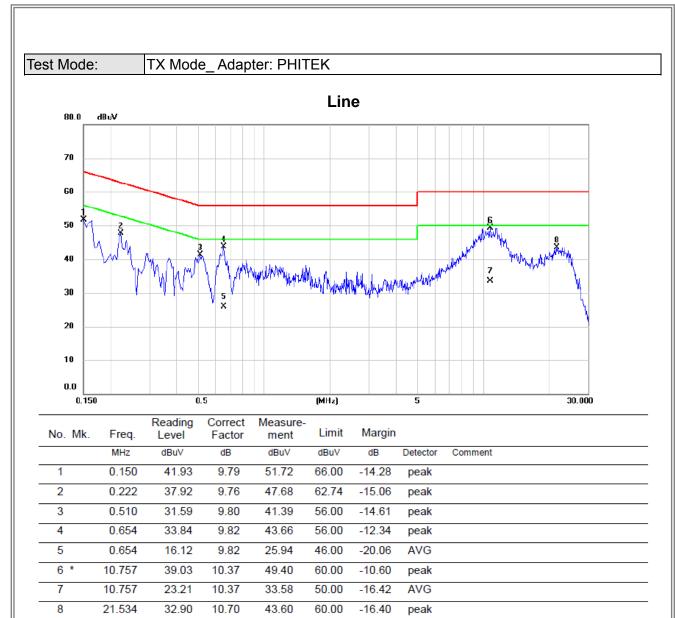
Test Mode: TX Mode\_ Adapter: BYD **Neutral** 80.0 dBuV70 60 50 40 30 20 10 5 30.000 0.5 (MHz) 0.150

No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	0.191	31.97	9.69	41.66	64.01	-22.35	peak	
2	0.375	28.90	9.69	38.59	58.39	-19.80	peak	
3 *	0.600	33.53	9.71	43.24	56.00	-12.76	peak	
4	0.600	16.59	9.71	26.30	46.00	-19.70	AVG	
5	1.329	30.55	9.76	40.31	56.00	-15.69	peak	
6	12.534	28.98	10.46	39.44	60.00	-20.56	peak	
7	18.227	30.75	10.70	41.45	60.00	-18.55	peak	

Report No.: BTL-FCCP-1-1701C155K Page 33 of 141



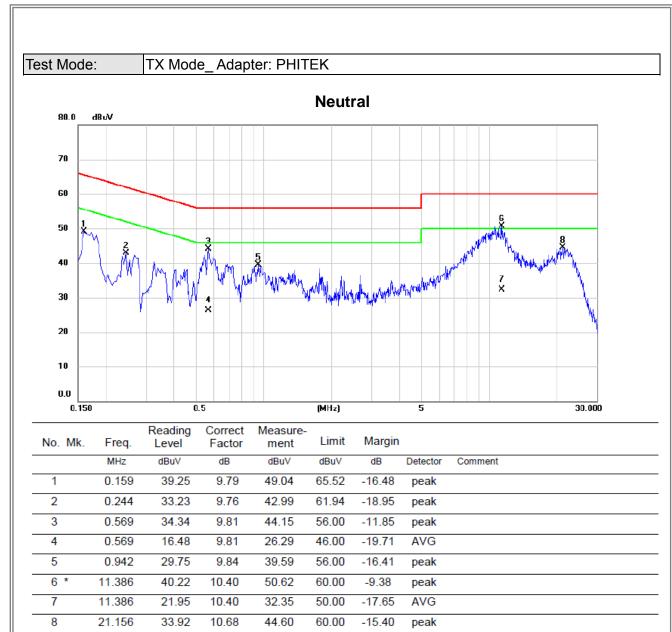




Report No.: BTL-FCCP-1-1701C155K Page 34 of 141







Report No.: BTL-FCCP-1-1701C155K Page 35 of 141





Test Mode: TX Mode\_ Adapter: Huntkey Line 80.0 dBuV 70 60 50 40 30 20 10 0.0 30.000 0.150 0.5 (MHz) 5

No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV	dBu∨	dB	Detector	Comment
1	0.177	45.58	9.78	55.36	64.63	-9.27	peak	
2	0.177	20.49	9.78	30.27	54.63	-24.36	AVG	
3	0.263	40.05	9.76	49.81	61.35	-11.54	peak	
4	0.263	18.16	9.76	27.92	51.35	-23.43	AVG	
5	0.326	34.73	9.78	44.51	59.57	-15.06	peak	
6	1.275	33.98	9.88	43.86	56.00	-12.14	peak	
7	1.275	16.78	9.88	26.66	46.00	-19.34	AVG	
8	7.165	30.49	10.19	40.68	60.00	-19.32	peak	
9 *	18.213	41.13	10.63	51.76	60.00	-8.24	peak	
10	18.213	21.75	10.63	32.38	50.00	-17.62	AVG	

Report No.: BTL-FCCP-1-1701C155K Page 36 of 141





Test Mode: TX Mode \_ Adapter: Huntkey **Neutral** 80.0 dBuV 70 60 50 40 30 20 10 0.0 30.000 0.150 0.5 (MHz) 5

No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	0.177	37.69	9.68	47.37	64.63	-17.26	peak	
2	0.244	33.08	9.67	42.75	61.94	-19.19	peak	
3	0.892	35.50	9.74	45.24	56.00	-10.76	peak	
4	0.892	21.84	9.74	31.58	46.00	-14.42	AVG	
5 *	1.153	36.14	9.75	45.89	56.00	-10.11	peak	
6	1.153	20.53	9.75	30.28	46.00	-15.72	AVG	
7	1.743	30.22	9.81	40.03	56.00	-15.97	peak	
8	17.826	37.00	10.70	47.70	60.00	-12.30	peak	
9	17.826	23.17	10.70	33.87	50.00	-16.13	AVG	

Report No.: BTL-FCCP-1-1701C155K Page 37 of 141





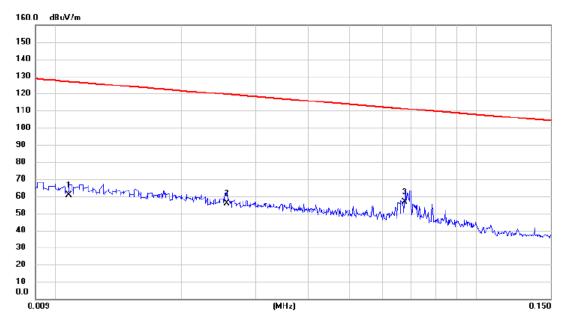
ATTACHMENT B - RADIATED EMISSION (9KHZ-30MHZ)	

Report No.: BTL-FCCP-1-1701C155K Page 38 of 141





Ant 0°



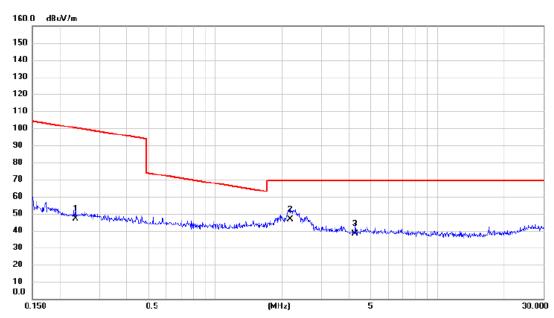
No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	0.011	39.85	20.82	60.67	126.94	-66.27	AVG	
2	0.026	36.51	19.45	55.96	119.44	-63.48	AVG	
3 *	0.068	38.28	18.38	56.66	110.99	-54.33	AVG	

Report No.: BTL-FCCP-1-1701C155K Page 39 of 141





## Ant 0°



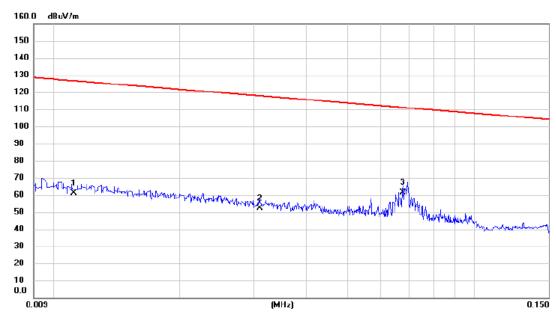
No. Mk.	Freq.	Reading Level		Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	0.234	30.11	16.70	46.81	100.22	-53.41	AVG	
2 *	2.178	31.15	15.46	46.61	69.54	-22.93	QP	
3	4.269	23.36	14.80	38.16	69.54	-31.38	QP	

Report No.: BTL-FCCP-1-1701C155K Page 40 of 141





## Ant 90°



No. Mk.	Freq.	Reading Level		Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	0.011	40.42	20.76	61.18	126.62	-65.44	AVG	
2	0.031	32.94	19.29	52.23	117.78	-65.55	AVG	
3 *	0.068	42.88	18.38	61.26	111.01	-49.75	AVG	

Report No.: BTL-FCCP-1-1701C155K Page 41 of 141





## Ant 90°



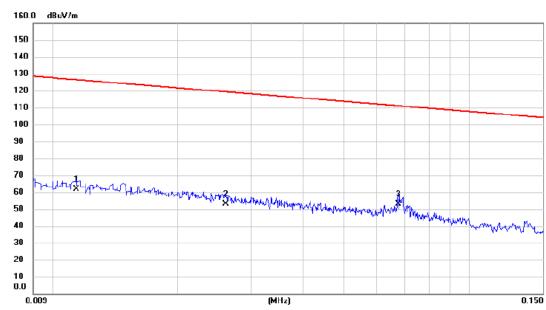
	No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
	1	0.251	28.91	16.65	45.56	99.62	-54.06	AVG	
_	2 *	2.249	29.77	15.44	45.21	69.54	-24.33	QP	
	3	3.799	24.28	15.01	39.29	69.54	-30.25	QP	

Report No.: BTL-FCCP-1-1701C155K Page 42 of 141





## Ant 0°



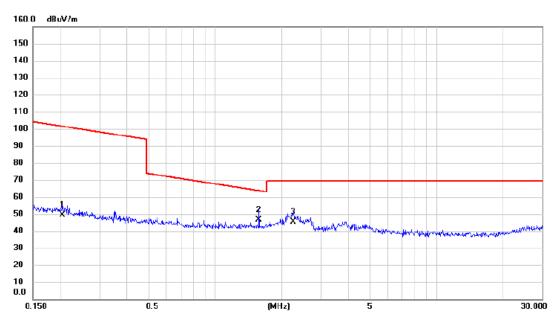
No. Mk.	Freq.		Correct Factor	Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	0.011	41.14	20.74	61.88	126.47	-64.59	AVG	
2	0.026	33.54	19.44	52.98	119.27	-66.29	AVG	
3 *	0.068	34.64	18.38	53.02	111.02	-58.00	AVG	

Report No.: BTL-FCCP-1-1701C155K Page 43 of 141





## Ant 0°



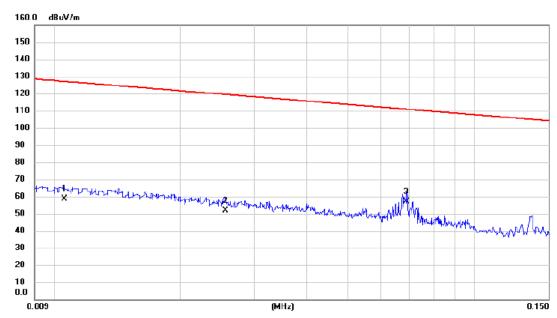
No. Mk.	Freq.		Correct Factor	Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	0.204	32.63	16.78	49.41	101.41	-52.00	AVG	
2 *	1.577	31.10	15.66	46.76	63.65	-16.89	QP	
3	2.249	29.92	15.44	45.36	69.54	-24.18	QP	

Report No.: BTL-FCCP-1-1701C155K Page 44 of 141





## Ant 90°



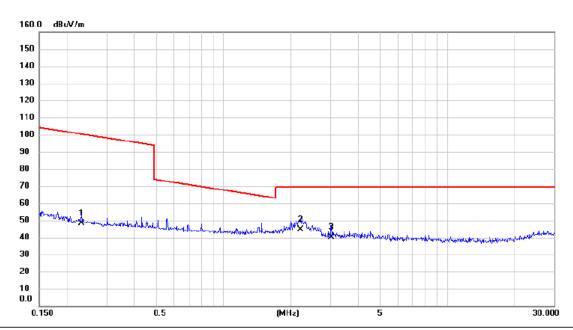
No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	0.011	37.66	20.84	58.50	127.10	-68.60	AVG	
2	0.026	32.46	19.45	51.91	119.44	-67.53	AVG	
3 *	0.069	38.68	18.35	57.03	110.83	-53.80	AVG	

Report No.: BTL-FCCP-1-1701C155K Page 45 of 141





## Ant 90°



No. Mk.	Freq.			Measure- ment		Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	0.232	31.58	16.71	48.29	100.31	-52.02	AVG	
2 *	2.213	28.97	15.45	44.42	69.54	-25.12	QP	
3	3.025	24.90	15.22	40.12	69.54	-29.42	QP	

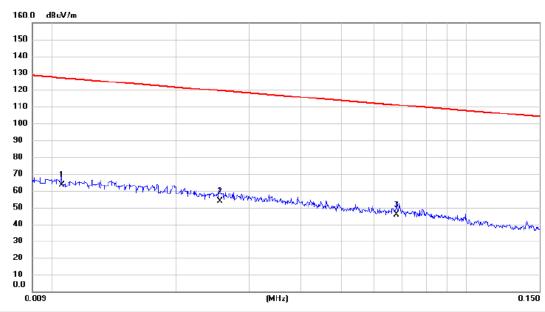
Report No.: BTL-FCCP-1-1701C155K Page 46 of 141





Test Mode: TX Mode\_ Adapter: Huntkey

## Ant 0°



No. Mk.	Freq.	Reading Level		Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	0.011	42.76	20.84	63.60	127.10	-63.50	AVG	
2	0.025	34.27	19.46	53.73	119.47	-65.74	AVG	
3	0.068	27.27	18.37	45.64	110.98	-65.34	AVG	

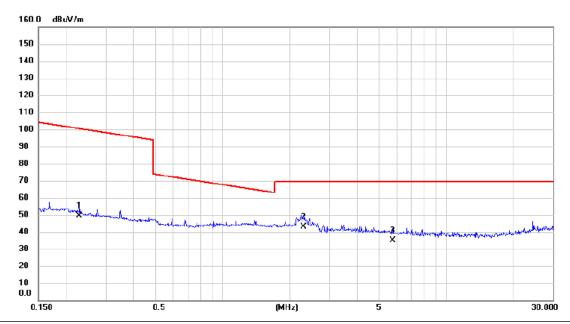
Report No.: BTL-FCCP-1-1701C155K Page 47 of 141





Test Mode: TX Mode\_ Adapter: Huntkey

# Ant 0°



No. Mk.	Freq.	Reading Level		Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	0.229	32.83	16.71	49.54	100.41	-50.87	AVG	
2 *	2.297	27.52	15.42	42.94	69.54	-26.60	QP	
3	5.774	20.81	14.28	35.09	69.54	-34.45	QP	

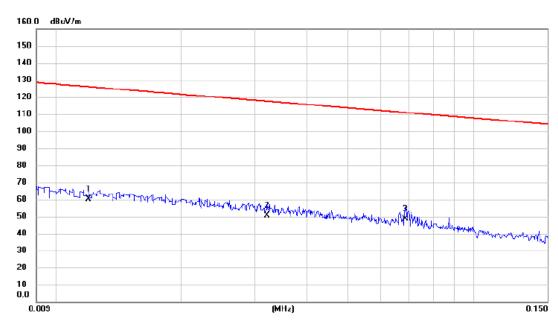
Report No.: BTL-FCCP-1-1701C155K Page 48 of 141





Test Mode: TX Mode\_ Adapter: Huntkey

## Ant 90°



No. Mk.	Freq.	Reading Level		Measure ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	0.012	39.57	20.66	60.23	126.02	-65.79	AVG	
2	0.032	31.45	19.26	50.71	117.47	-66.76	AVG	
3 *	0.069	30.26	18.36	48.62	110.87	-62.25	AVG	

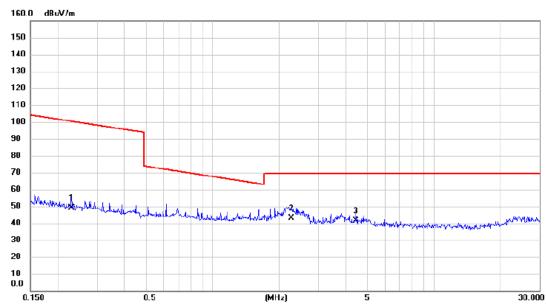
Report No.: BTL-FCCP-1-1701C155K Page 49 of 141





Test Mode: TX Mode\_Adapter: Huntkey

## Ant 90°



No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	0.230	32.41	16.71	49.12	100.36	-51.24	AVG	
2 *	2.272	27.49	15.43	42.92	69.54	-26.62	QP	
3	4.431	26.68	14.71	41.39	69.54	-28.15	QP	

Report No.: BTL-FCCP-1-1701C155K Page 50 of 141





ATTACHMENT C - RADIATED EMISSION (30MHZ TO 1000MHZ)

Report No.: BTL-FCCP-1-1701C155K Page 51 of 141





Test Mode: TX 2402MHz \_CH00\_1Mbps\_Adapter: BYD **Vertical** dBuV/m 80.0 70 60 50 40 30 20 10 0.0 30.000 127.00 515.00 612.00 709.00 806.00 1000.00 MHz 224.00 321.00 418.00 Reading Correct Measure-Freq. No. Mk. Limit Margin Factor Level ment MHz dBuV dΒ dBuV/m dBuV/m dΒ Detector Comment 42.610 1 \* 48.58 -13.36 35.22 40.00 -4.78 peak 2 77.530 40.76 -16.31 24.45 40.00 -15.55 peak 216.240 30.95 -14.40 16.55 46.00 -29.45 3 peak 385.990 28.03 -8.74 19.29 46.00 -26.71 4 peak 23.30 46.00 5 566.410 28.67 -5.37 -22.70 peak 790.480 27.30 6 27.46 -0.1646.00 -18.70peak

Report No.: BTL-FCCP-1-1701C155K Page 52 of 141





Test Mode: TX 2402MHz \_CH00\_1Mbps\_Adapter: BYD **Horizontal** 80.0 dBuV/m 70 60 50 40 30 20 10 0.0 1000.00 MHz 127.00 224.00 321.00 418.00 515.00 612.00 709.00 806.00 30.000 Reading Correct Measure-Limit Margin No. Mk. Freq. Level Factor ment MHz dBuV dB dBuV/m dBuV/m dB Comment Detector 41.640 27.86 14.30 40.00 -13.56 -25.70 1 peak 271.530 27.24 -13.21 14.03 46.00 2 -31.97 peak 3 402.480 27.11 -7.80 19.31 46.00 -26.69 peak 558.650 27.36 -4.98 22.38 46.00 -23.62 4 peak 789.510 27.48 -0.20 27.28 46.00 -18.72 5 peak 6 \* 941.800 27.04 2.47 29.51 46.00 -16.49 peak

Report No.: BTL-FCCP-1-1701C155K Page 53 of 141



4

5

6

414.120

550.890

913.670

32.14

28.52

27.77

-7.85

-4.59

2.59

24.29

23.93

30.36

46.00

46.00

46.00

-21.71

-22.07

-15.64

peak

peak

peak



Test Mode: TX 2480MHz \_CH78\_1Mbps\_Adapter: BYD **Vertical** 80.0 dBuV/m 70 60 50 40 30 20 10 0.0 30.000 127.00 224.00 321.00 418.00 515.00 612.00 709.00 806.00 1000.00 MHz Reading Correct Measure-Freq. No. Mk. Limit Margin Level Factor ment MHz dBuV dB dBuV/m dBuV/m dB Detector Comment 1 \* 48.430 45.08 -13.11 31.97 40.00 -8.03 peak 2 77.530 44.52 -16.31 28.21 40.00 -11.79 peak 3 164.830 37.45 -12.20 25.25 43.50 -18.25 peak

Donort No :	BTL-FCCP-1-1701C155K	
Report No.:	B1L-FUUP-1-1/01U100N	





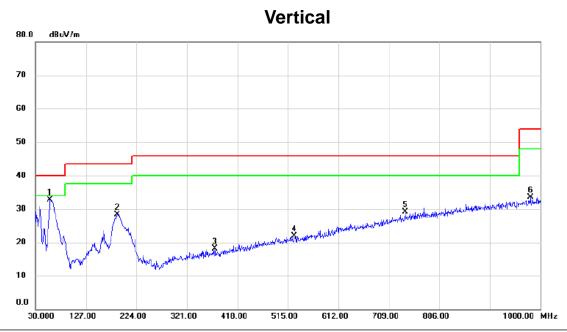
Test Mode: TX 2480MHz \_CH78\_1Mbps\_Adapter: BYD **Horizontal** 80.0 dBuV/m 70 60 50 40 30 20 10 1000.00 MHz 30.000 127.00 224.00 321.00 418.00 515.00 612.00 709.00 806.00 Reading Correct Measure-Limit Margin No. Mk. Freq. Level Factor ment MHz dBuV dB dBuV/m dBuV/m dB Comment Detector 47.460 -24.33 28.54 -12.87 15.67 40.00 peak 2 134.760 28.74 -13.01 15.73 43.50 -27.77 peak 3 308.390 27.30 -10.34 16.96 46.00 -29.04 peak 4 548.950 28.60 -4.64 23.96 46.00 -22.04 peak 783.690 27.99 27.53 46.00 -18.47 5 -0.46 peak 6 \* 912.700 28.05 2.59 30.64 46.00 -15.36 peak

Report No.: BTL-FCCP-1-1701C155K Page 55 of 141





Test Mode: TX 2402MHz\_CH00\_1Mbps\_Adapter: PHITEK



No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	58.130	46.63	-13.85	32.78	40.00	-7.22	peak	
2	187.140	40.59	-12.21	28.38	43.50	-15.12	peak	
3	374.350	29.18	-11.03	18.15	46.00	-27.85	peak	
4	526.640	29.27	-7.36	21.91	46.00	-24.09	peak	
5	740.040	30.72	-1.70	29.02	46.00	-16.98	peak	
6	980.600	29.66	3.82	33.48	54.00	-20.52	peak	

Report No.: BTL-FCCP-1-1701C155K Page 56 of 141





Test Mode: TX 2402MHz\_CH00\_1Mbps\_Adapter: PHITEK **Horizontal** dBuV/m 80.0 70 60 50 40 30 20 10 0.0 30.000 127.00 224.00 321.00 418.00 515.00 612.00 709.00 806.00 1000.00 MHz Reading Correct Measure-Limit Margin No. Mk. Freq. Level Factor ment MHz dBuV dB dBuV/m dBuV/m dB Detector Comment 39.700 33.88 20.11 40.00 -13.77-19.89 1 peak 160.950 38.18 -12.49 25.69 43.50 -17.81 2 peak 3 207.510 37.61 -13.51 24.10 43.50 -19.40 peak 477.170 29.11 -8.51 20.60 46.00 -25.40 4 peak 623.640 30.00 -5.02 24.98 46.00 -21.02 5 peak 6 \* 804.060 29.84 -0.16 29.68 46.00 -16.32 peak

Report No.: BTL-FCCP-1-1701C155K





Test Mode: TX 2480MHz\_CH78\_1Mbps\_Adapter: PHITEK **Vertical** 80.0 dBuV/m 70 60 50 40 30 20 10 0.0 30.000 127.00 224.00 321.00 418.00 515.00 612.00 709.00 806.00 1000.00 MHz Reading Correct Measure-No. Mk. Freq. Limit Margin Factor Level ment MHz dBuV dBuV/m dBuV/m dB Detector Comment 1 \* 60.070 46.91 -14.04 32.87 40.00 -7.13 peak 190.050 40.97 -12.45 28.52 43.50 -14.98 2 peak 3 382.110 29.47 -10.93 18.54 46.00 -27.46 peak 4 613.940 30.09 -5.21 24.88 46.00 -21.12 peak

Report No.: BTL-FCCP-1-1701C155K

29.84

29.83

-0.88

3.30

28.96

33.13

46.00

46.00

-17.04

-12.87

peak

peak

773.020

954.410

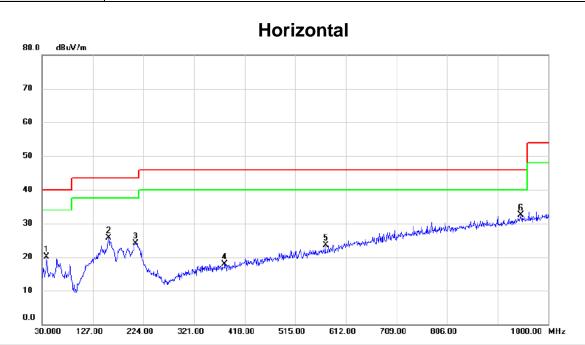
5

6





Test Mode: TX 2480MHz\_CH78\_1Mbps\_Adapter: PHITEK



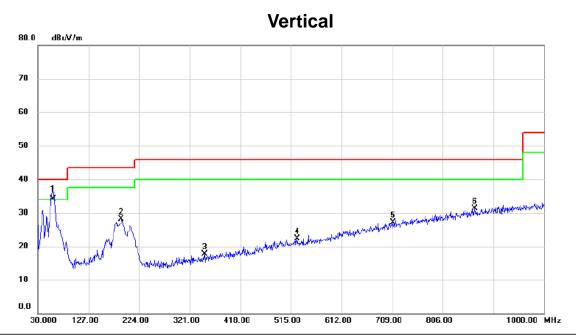
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		38.730	34.00	-13.93	20.07	40.00	-19.93	peak	
2		157.070	38.45	-12.73	25.72	43.50	-17.78	peak	
3		208.480	37.53	-13.51	24.02	43.50	-19.48	peak	
4		380.170	28.89	-10.95	17.94	46.00	-28.06	peak	
5		573.200	29.67	-6.22	23.45	46.00	-22.55	peak	
6	*	947.620	29.43	3.16	32.59	46.00	-13.41	peak	

Report No.: BTL-FCCP-1-1701C155K Page 59 of 141





Test Mode: TX 2402MHz\_CH00\_1Mbps\_Adapter: Huntkey



No. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	59.100	47.98	-13.95	34.03	40.00	-5.97	QP	
2	190.050	40.50	-12.45	28.05	43.50	-15.45	peak	
3	350.100	29.02	-11.34	17.68	46.00	-28.32	peak	
4	527.610	29.61	-7.33	22.28	46.00	-23.72	peak	
5	710.940	29.64	-2.59	27.05	46.00	-18.95	peak	
6	867.110	29.87	1.49	31.36	46.00	-14.64	peak	

Report No.: BTL-FCCP-1-1701C155K Page 60 of 141





Test Mode: TX 2402MHz\_CH00\_1Mbps\_Adapter: Huntkey **Horizontal** dBuV/m 80.070 60 50 40 30 20 10 0.0 30.000 127.00 224.00 321.00 418.00 515.00 612.00 709.00 806.00 1000.00 MHz Reading Correct Measure-No. Mk. Freq. Limit Margin Factor Level ment MHz dBuV dB dBuV/m dBuV/m dB Detector Comment 57.160 34.83 -13.77 21.06 40.00 -18.94 peak 2 163.860 40.19 -12.32 27.87 43.50 -15.63 peak 3 209.450 41.11 -13.54 27.57 43.50 -15.93 peak 406.360 29.13 4 -10.51 18.62 46.00 -27.38 peak 5 628.490 29.89 -4.93 24.96 46.00 -21.04 peak 6 \* 878.750 29.66 1.75 31.41 46.00 -14.59 peak

Report No.: BTL-FCCP-1-1701C155K Page 61 of 141





Test Mode: TX 2480MHz\_CH78\_1Mbps\_Adapter: Huntkey **Vertical** 80.0 dBuV/m 70 60 50 40 30 20 10 0.0127.00 224.00 321.00 709.00 806.00 1000.00 MHz 30.000 418.00 515.00 612.00 Reading Correct Measure-Limit Margin No. Mk. Freq. Level Factor ment MHz dBuV dB dBuV/m dBuV/m dB Detector Comment QP 58.130 48.55 34.70 40.00 -13.85 -5.30 1 \* 191.020 40.72 28.18 -15.32 2 -12.54 43.50 peak 3 424.790 18.48 46.00 -27.52 28.44 -9.96 peak 612.000 30.02 -5.26 24.76 46.00 -21.24 4 peak 814.730 29.67 29.81 46.00 -16.19 5 0.14 peak 6 937.920 28.88 2.97 31.85 46.00 -14.15 peak

Report No.: BTL-FCCP-1-1701C155K Page 62 of 141



30.000

127.00

224.00

321.00

418.00



Test Mode: TX 2480MHz\_CH78\_1Mbps\_Adapter: Huntkey

# Horizontal 80.0 dBuV/m 70 60 40 20 10

No. I	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		57.160	34.31	-13.77	20.54	40.00	-19.46	peak	
2		177.440	39.74	-11.72	28.02	43.50	-15.48	peak	
3		209.450	40.67	-13.54	27.13	43.50	-16.37	peak	
4		418.000	31.06	-10.16	20.90	46.00	-25.10	peak	
5		690.570	29.47	-3.22	26.25	46.00	-19.75	peak	
6 *		905.910	29.39	2.33	31.72	46.00	-14.28	peak	

515.00

612.00

709.00

806.00

1000.00 MHz

Report No.: BTL-FCCP-1-1701C155K Page 63 of 141





ATTACHMENT D - RADIATED EMISSION (ABOVE 1000MHZ)

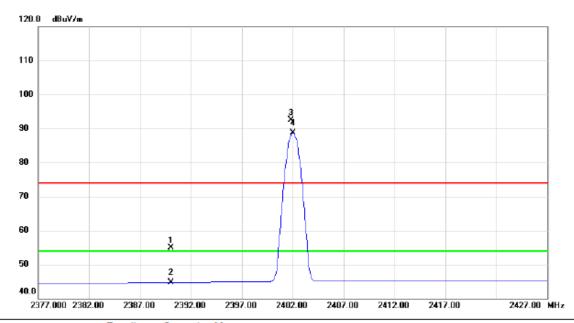
Report No.: BTL-FCCP-1-1701C155K Page 64 of 141





Test Mode: TX 2402MHz \_CH00\_1Mbps

## Vertical

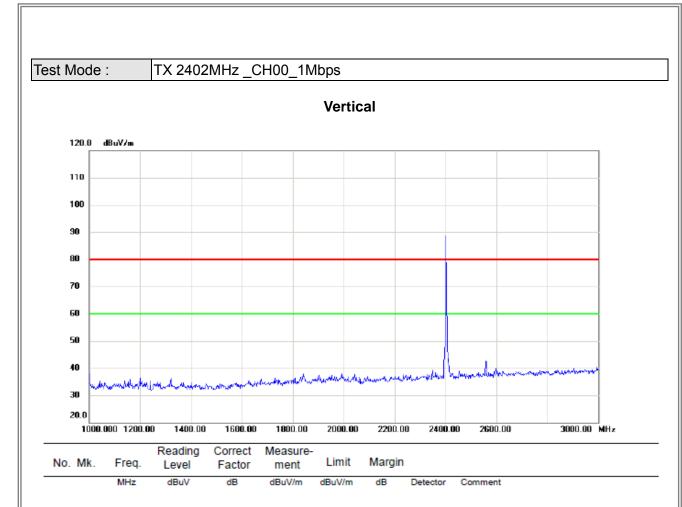


	No. M	k.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
	1	23	90.000	21.92	33.01	54.93	74.00	-19.07	peak	
	2	23	90.000	11.67	33.01	44.68	54.00	-9.32	AVG	
	3 X	24	01.850	59.47	33.06	92.53	74.00	18.53	peak	No Limit
-	4 *	24	02.050	55.74	33.06	88.80	54.00	34.80	AVG	No Limit
-										

Report No.: BTL-FCCP-1-1701C155K Page 65 of 141



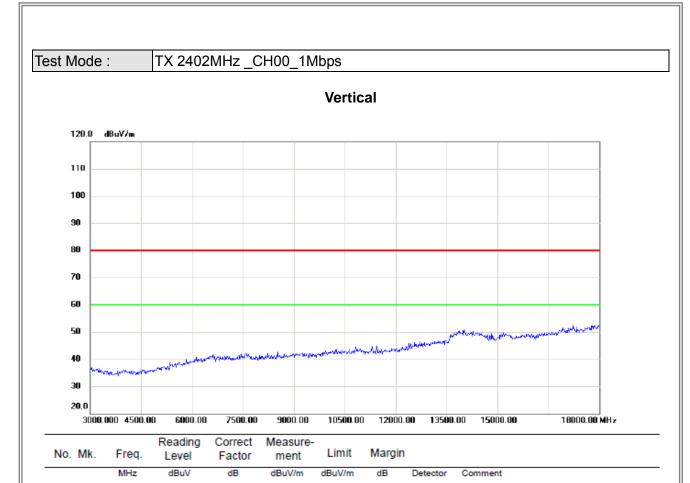




Report No.: BTL-FCCP-1-1701C155K Page 66 of 141



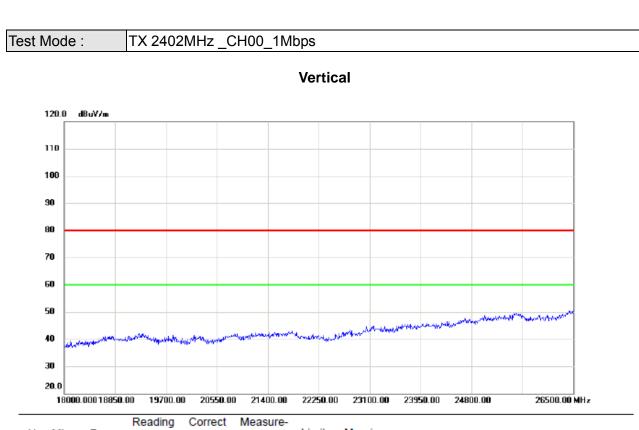




Report No.: BTL-FCCP-1-1701C155K Page 67 of 141







No. Mk.	Freq.	_		Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment

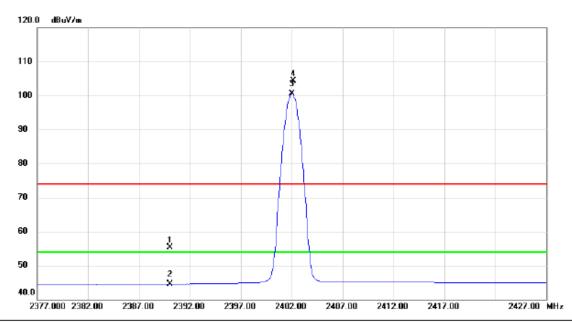
Report No.: BTL-FCCP-1-1701C155K Page 68 of 141





Test Mode: TX 2402MHz \_CH00\_1Mbps

### Horizontal

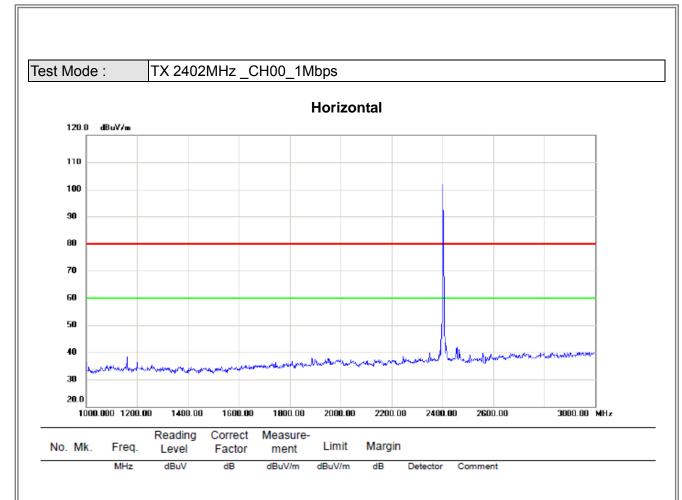


	No. MI	k. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
_		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
	1	2390.000	22.24	33.01	55.25	74.00	-18.75	peak	
	2	2390.000	11.54	33.01	44.55	54.00	-9.45	AVG	
_	3 *	2402.050	67.48	33.06	100.54	54.00	46.54	AVG	No Limit
	4 X	2402.150	71.25	33.06	104.31	74.00	30.31	peak	No Limit

Report No.: BTL-FCCP-1-1701C155K Page 69 of 141







Report No.: BTL-FCCP-1-1701C155K Page 70 of 141

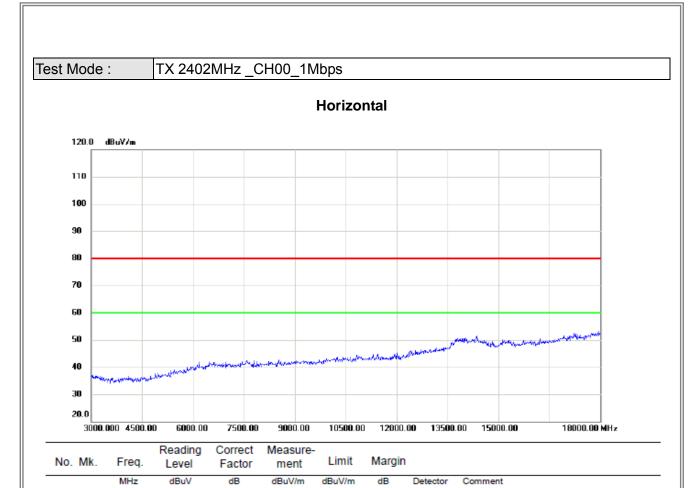


MHz

dBuV

dB





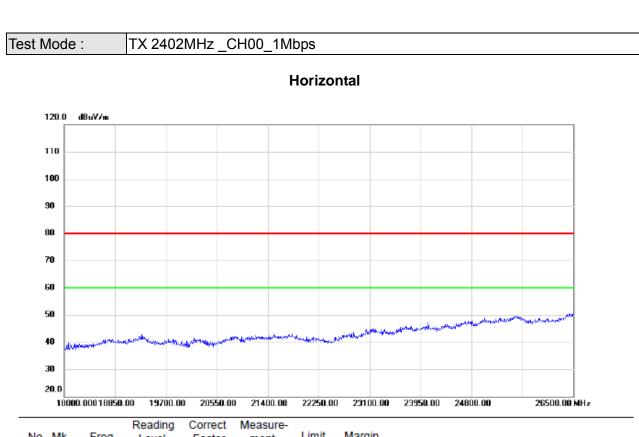
dB

Detector Comment

Report No.: BTL-FCCP-1-1701C155K Page 71 of 141







No. Mk.	Freq.	_		Measure- ment		Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment

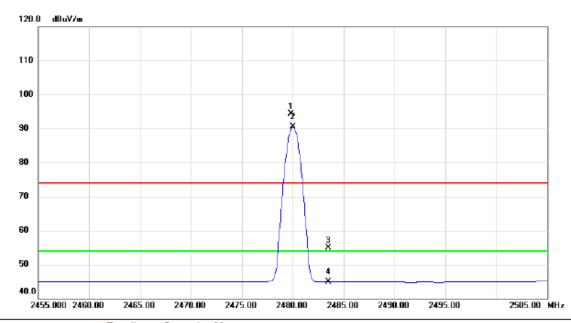
Report No.: BTL-FCCP-1-1701C155K Page 72 of 141





Test Mode: TX 2480MHz \_CH78\_1Mbps

## Vertical

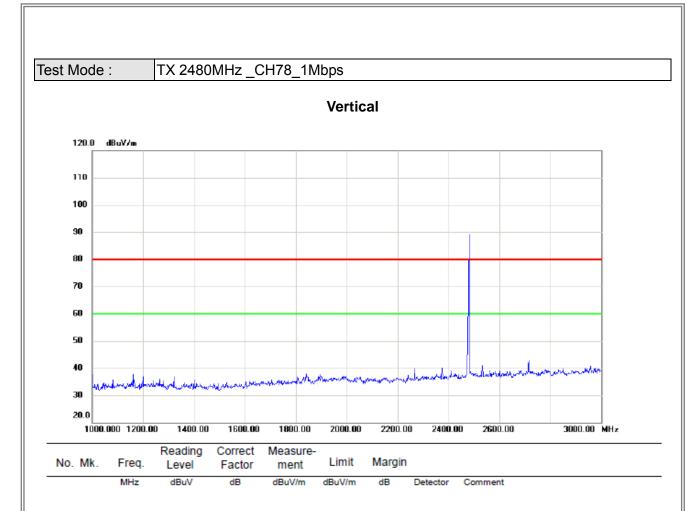


	No. Mi	c. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
	1 X	2479.850	60.86	33.39	94.25	74.00	20.25	peak	No Limit
	2 *	2480.050	57.08	33.39	90.47	54.00	36.47	AVG	No Limit
	3	2483.500	21.41	33.40	54.81	74.00	-19.19	peak	
-	4	2483.500	11.45	33.40	44.85	54.00	-9.15	AVG	
-									

Report No.: BTL-FCCP-1-1701C155K Page 73 of 141



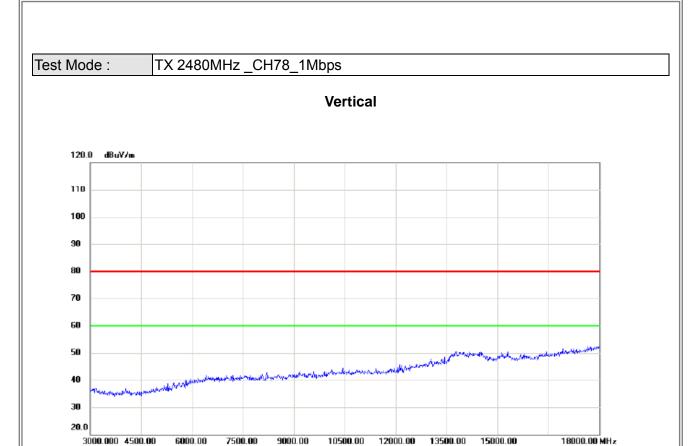




Report No.: BTL-FCCP-1-1701C155K Page 74 of 141





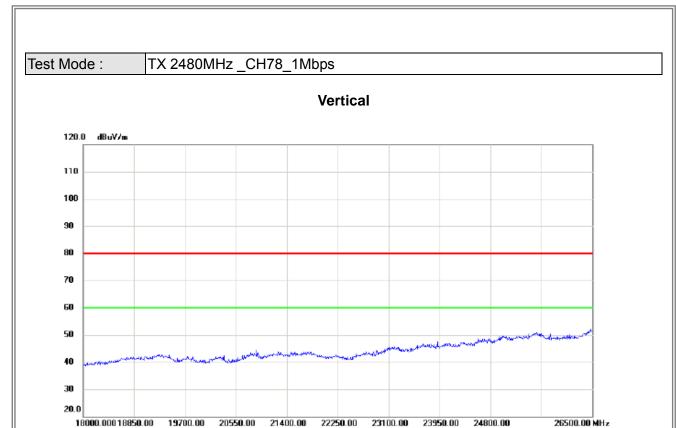


No. Mk.	Freq.	_	Correct Factor	Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment

Report No.: BTL-FCCP-1-1701C155K Page 75 of 141







No. Mk.	Freq.		Correct Factor	Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment

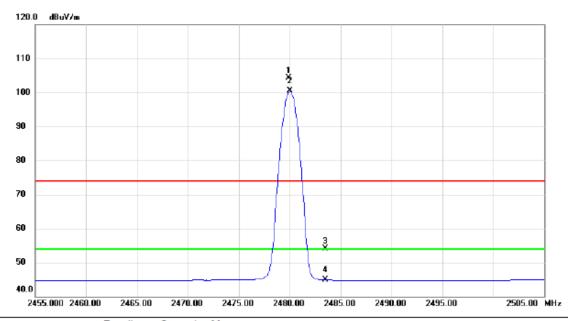
Report No.: BTL-FCCP-1-1701C155K Page 76 of 141





Test Mode: TX 2480MHz \_CH78\_1Mbps

#### Horizontal

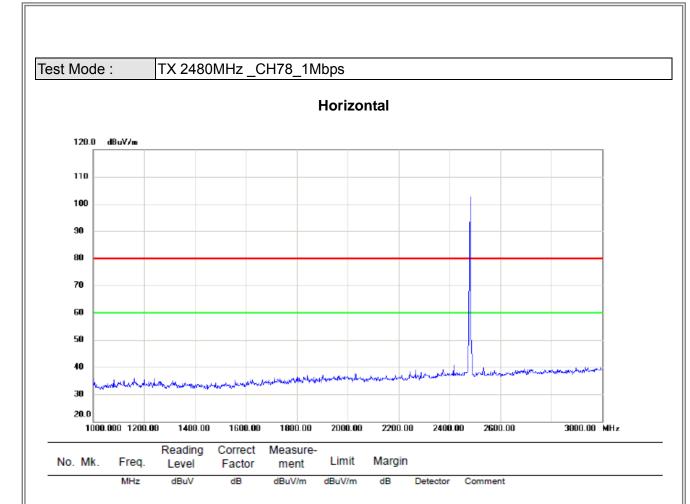


No. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 X	2479.900	70.88	33.39	104.27	74.00	30.27	peak	No Limit
2 *	2480.050	67.05	33.39	100.44	54.00	46.44	AVG	No Limit
3	2483.500	20.71	33.40	54.11	74.00	-19.89	peak	
4	2483.500	11.44	33.40	44.84	54.00	-9.16	AVG	

Report No.: BTL-FCCP-1-1701C155K Page 77 of 141







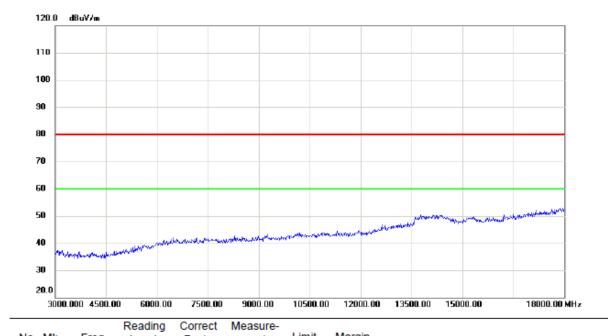
Report No.: BTL-FCCP-1-1701C155K Page 78 of 141





Test Mode: TX 2480MHz \_CH78\_1Mbps

#### Horizontal



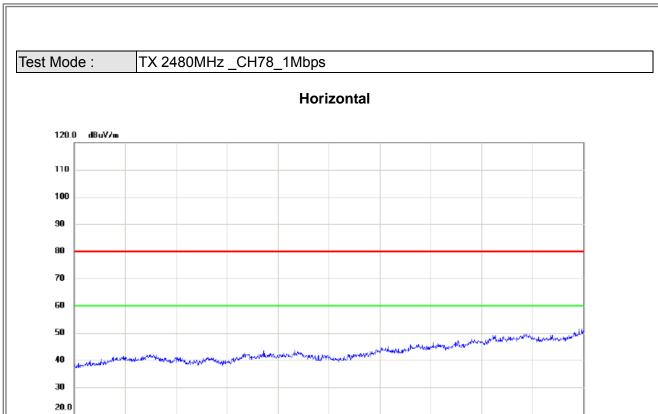
No. Mk.	Freq.			Measure- ment		Margin			
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment	

Report No.: BTL-FCCP-1-1701C155K Page 79 of 141



18000.000 18850.00





No. Mk.	Freq.	_	Correct Factor	Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment

24800.00

26500.00 MHz

19700.00 20550.00 21400.00 22250.00 23100.00 23950.00

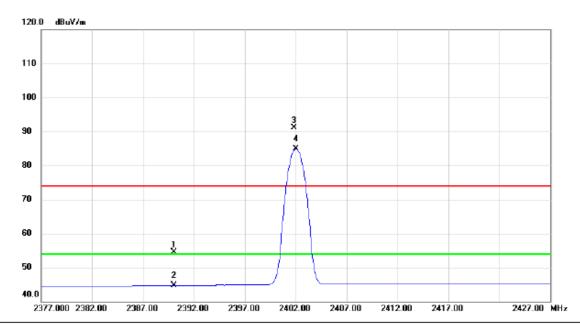
Report No.: BTL-FCCP-1-1701C155K Page 80 of 141





Test Mode: TX 2402MHz \_CH00\_3Mbps

#### **Vertical**

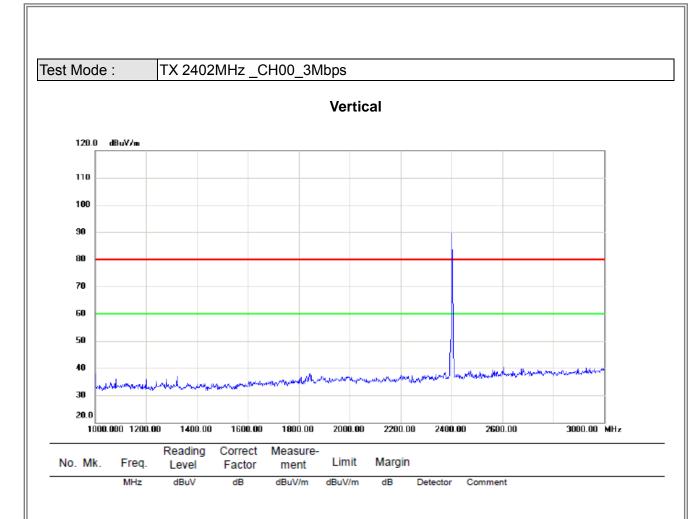


	No. M	k. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
Ī		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
	1	2390.000	21.48	33.01	54.49	74.00	-19.51	peak	
	2	2390.000	11.67	33.01	44.68	54.00	-9.32	AVG	
	3 X	2401.850	58.03	33.06	91.09	74.00	17.09	peak	No Limit
	4 *	2402.050	51.84	33.06	84.90	54.00	30.90	AVG	No Limit

Report No.: BTL-FCCP-1-1701C155K Page 81 of 141





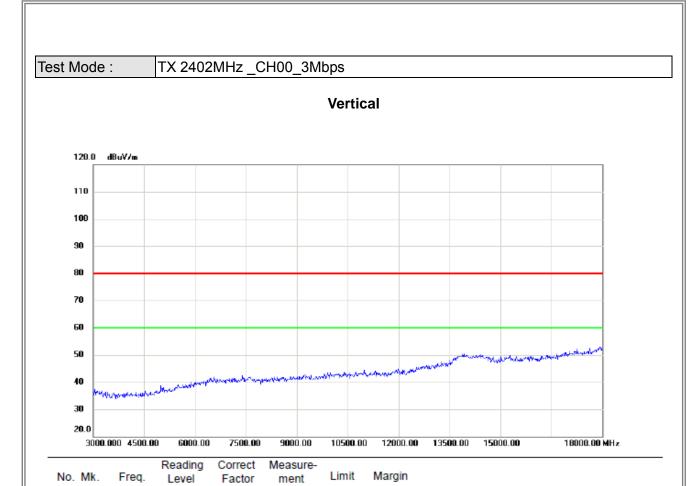


Report No.: BTL-FCCP-1-1701C155K Page 82 of 141



MHz





dBuV/m

dBuV/m

dΒ

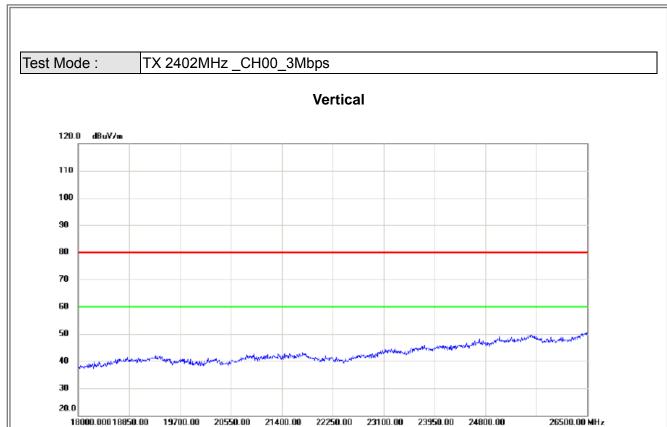
Detector

Comment

Report No.: BTL-FCCP-1-1701C155K Page 83 of 141







No. Mk.	Freq.		Correct Factor	Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment

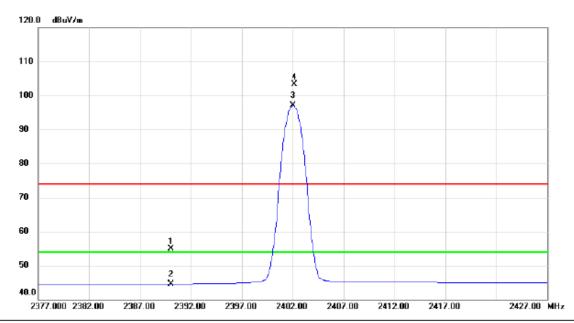
Report No.: BTL-FCCP-1-1701C155K Page 84 of 141





Test Mode: TX 2402MHz \_CH00\_3Mbps

#### Horizontal

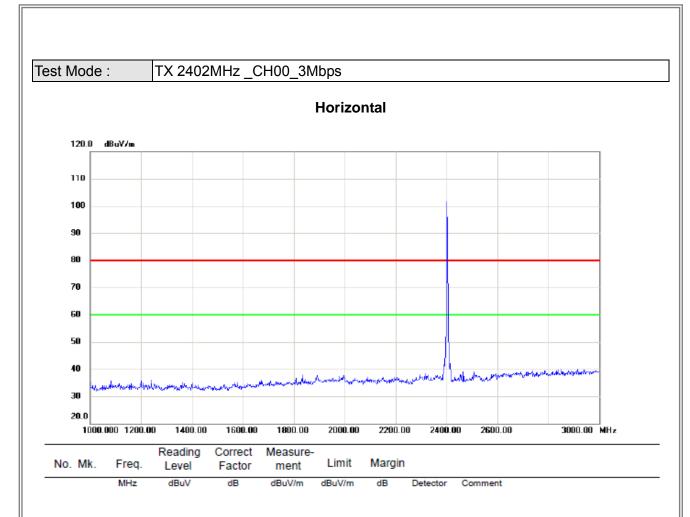


	No. MI	k. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
_		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
_	1	2390.000	21.93	33.01	54.94	74.00	-19.06	peak	
_	2	2390.000	11.53	33.01	44.54	54.00	-9.46	AVG	
_	3 *	2402.050	63.98	33.06	97.04	54.00	43.04	AVG	No Limit
	4 X	2402.200	70.26	33.06	103.32	74.00	29.32	peak	No Limit

Report No.: BTL-FCCP-1-1701C155K Page 85 of 141







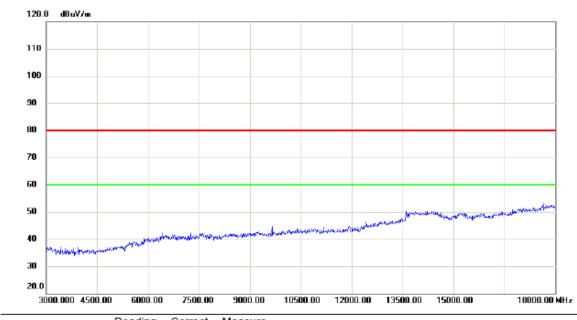
Report No.: BTL-FCCP-1-1701C155K Page 86 of 141





Test Mode: TX 2402MHz \_CH00\_3Mbps

#### Horizontal



No. Mk.	Freq.	_		Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment

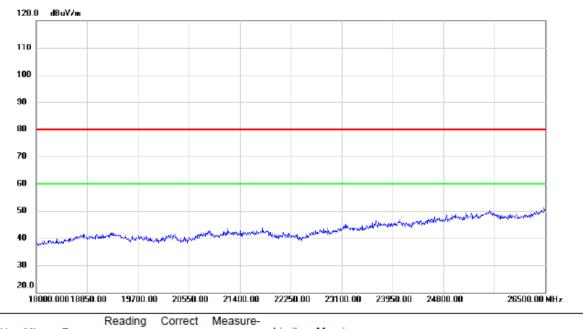
Report No.: BTL-FCCP-1-1701C155K Page 87 of 141





Test Mode: TX 2402MHz \_CH00\_3Mbps

### Horizontal



No. Mk.	Freq.			Measure- ment		Margin				
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment		

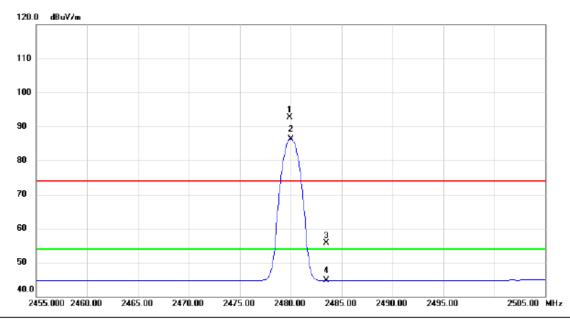
Report No.: BTL-FCCP-1-1701C155K Page 88 of 141





Test Mode: TX 2480MHz \_CH78\_3Mbps

#### **Vertical**

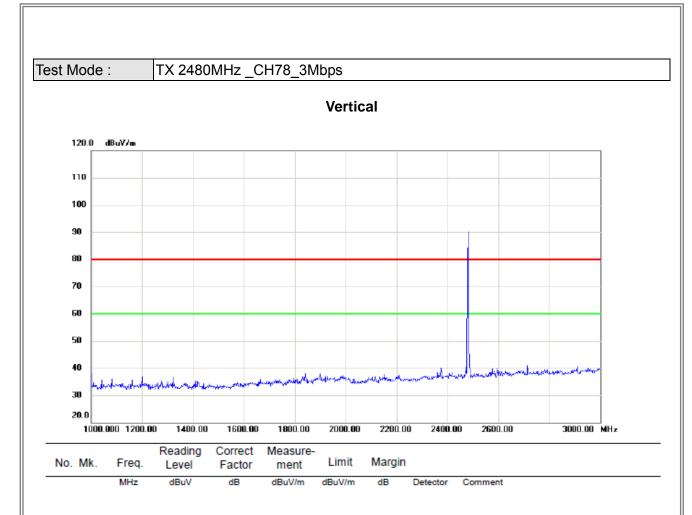


No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2479.900	59.34	33.39	92.73	74.00	18.73	peak	No Limit
2	*	2480.000	52.96	33.39	86.35	54.00	32.35	AVG	No Limit
3		2483.500	22.27	33.40	55.67	74.00	-18.33	peak	
4		2483.500	11.33	33.40	44.73	54.00	-9.27	AVG	

Report No.: BTL-FCCP-1-1701C155K Page 89 of 141





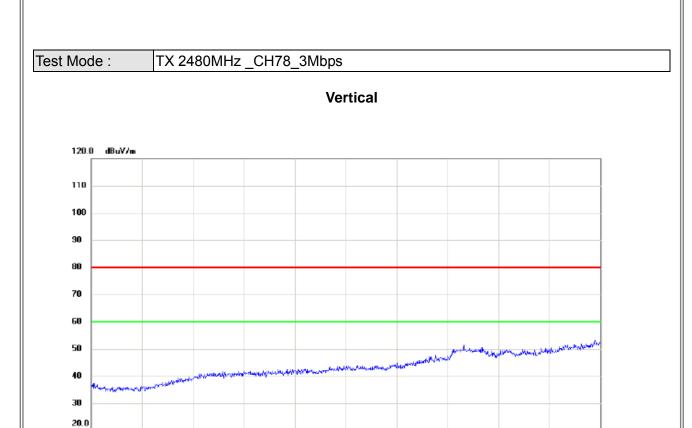


Report No.: BTL-FCCP-1-1701C155K Page 90 of 141



3000.000 4500.00





No. Mk.	Freq.	_	Correct Factor	Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment

10500.00

12000.00

13500.00

18000.00 MHz

7500.00

9000.00

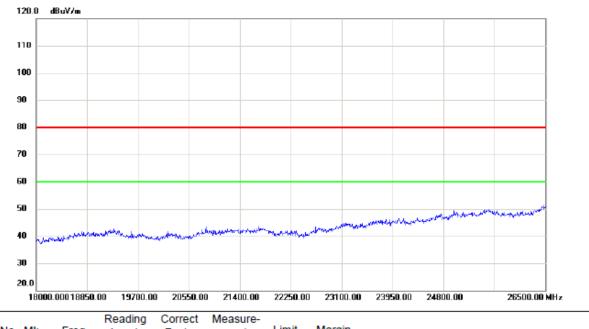
Report No.: BTL-FCCP-1-1701C155K Page 91 of 141





Test Mode: TX 2480MHz \_CH78\_3Mbps

#### **Vertical**



Reading Correct MeasureNo. Mk. Freq. Level Factor ment Limit Margin

MHz dBuV dB dBuV/m dBuV/m dB Detector Comment

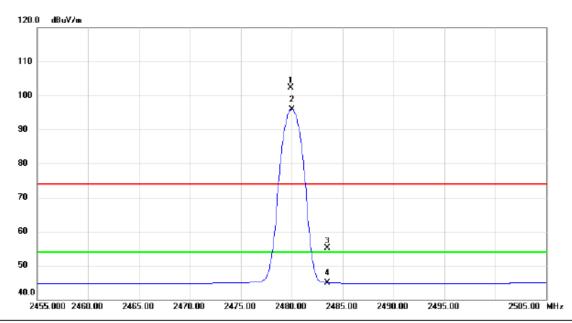
Report No.: BTL-FCCP-1-1701C155K Page 92 of 141





Test Mode: TX 2480MHz \_CH78\_3Mbps

#### Horizontal

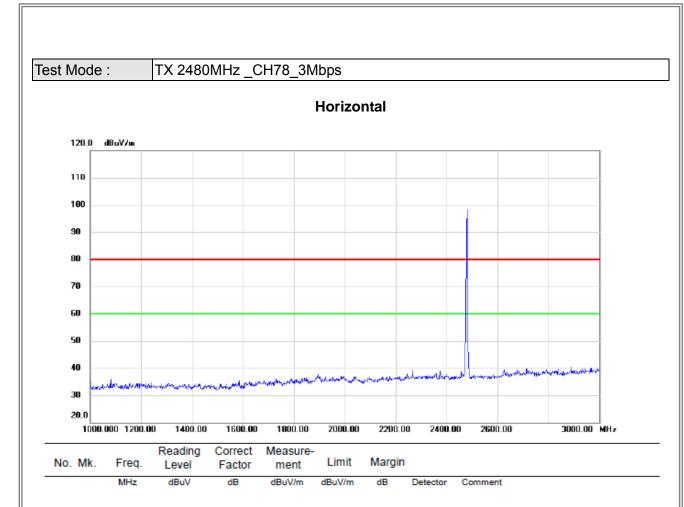


	No.	M	<b>K</b> .	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
				MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
	1	Х	247	9.900	68.82	33.39	102.21	74.00	28.21	peak	No Limit
	2	*	248	0.000	62.50	33.39	95.89	54.00	41.89	AVG	No Limit
_	3		248	3.500	21.68	33.40	55.08	74.00	-18.92	peak	
	4		248	3.500	11.55	33.40	44.95	54.00	-9.05	AVG	

Report No.: BTL-FCCP-1-1701C155K Page 93 of 141







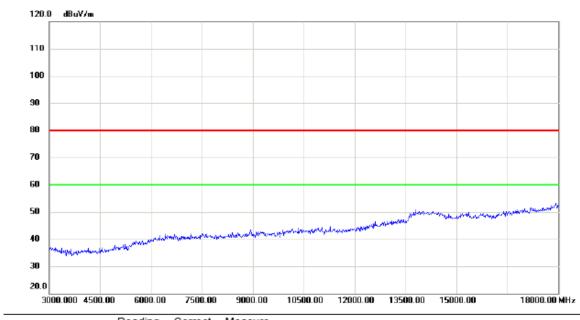
Report No.: BTL-FCCP-1-1701C155K Page 94 of 141





Test Mode: TX 2480MHz \_CH78\_3Mbps

#### Horizontal

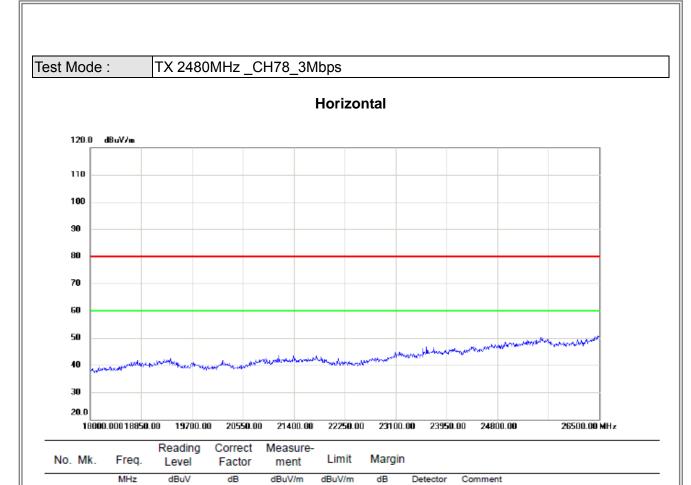


No. Mk.	Freq.	_		Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment

Report No.: BTL-FCCP-1-1701C155K Page 95 of 141







Report No.: BTL-FCCP-1-1701C155K Page 96 of 141





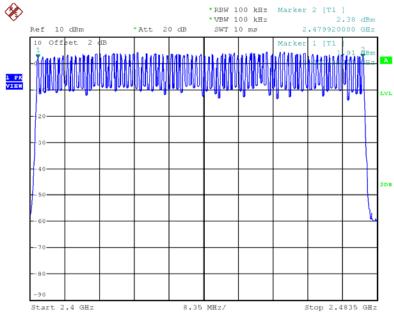
ATTACHMENT E - NUMBER OF HOPPING CHANNEL

Report No.: BTL-FCCP-1-1701C155K Page 97 of 141





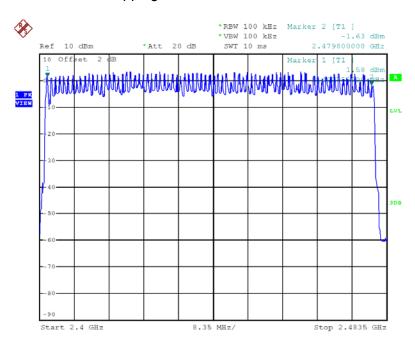




# Test Mode Hopping Mode\_3Mbps

**Number of Hopping Channel** 

79



Report No.: BTL-FCCP-1-1701C155K





ATTACHMENT F - AVERAGE TIME OF OCCUPANCY

Report No.: BTL-FCCP-1-1701C155K Page 99 of 141





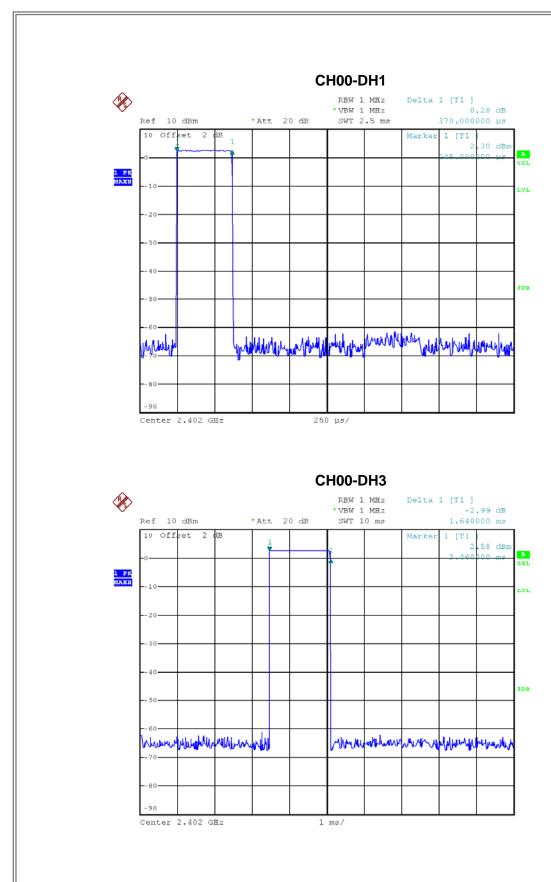
Test Mode : TX Mode\_1Mbps

Data Packet	Frequency	Pulse Duration	Dwell Time	Limits	Test Result	
Data Packet	(MHz)	(ms)	(s)	(s)	1651 Result	
DH5	2402	2.8800	0.3072	0.4000	Pass	
DH3	2402	1.6400	0.2624	0.4000	Pass	
DH1	2402	0.3700	0.1184	0.4000	Pass	
DH5	2441	2.8800	0.3072	0.4000	Pass	
DH3	2441	1.6200	0.2592	0.4000	Pass	
DH1	2441	0.3750	0.1200	0.4000	Pass	
DH5	2480	2.8800	0.3072	0.4000	Pass	
DH3	2480	1.6200	0.2592	0.4000	Pass	
DH1	2480	0.3750	0.1200	0.4000	Pass	

Report No.: BTL-FCCP-1-1701C155K Page 100 of 141



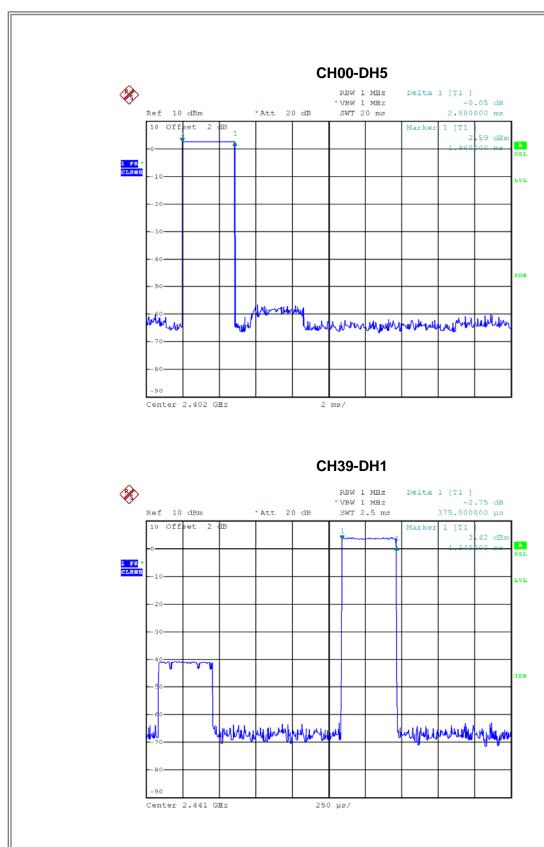




Report No.: BTL-FCCP-1-1701C155K Page 101 of 141

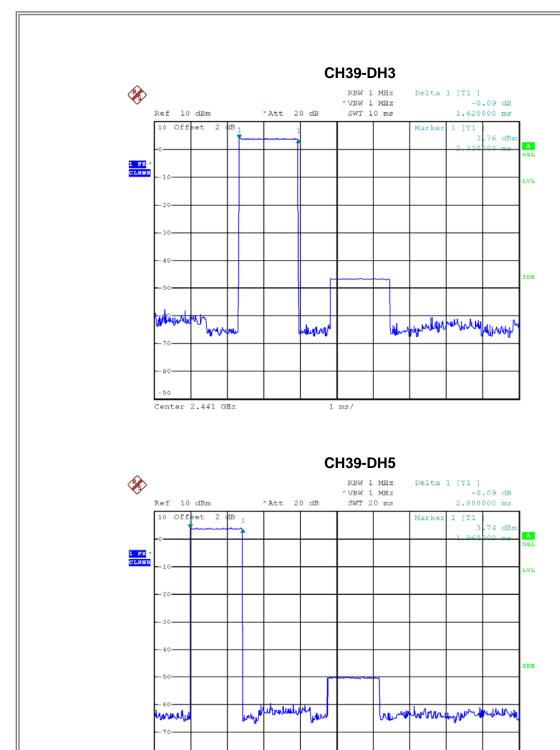










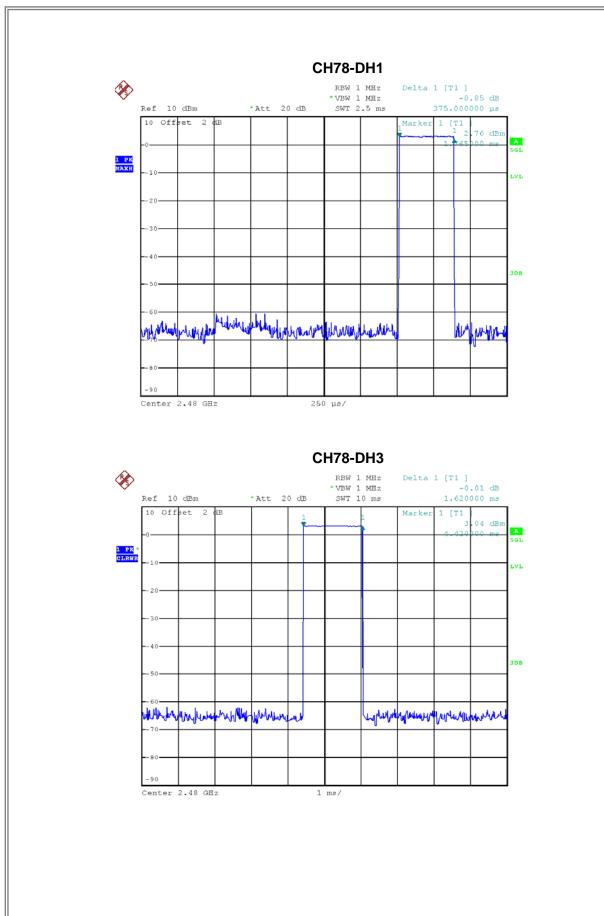


Center 2.441 GHz

Report No.: BTL-FCCP-1-1701C155K Page 103 of 141

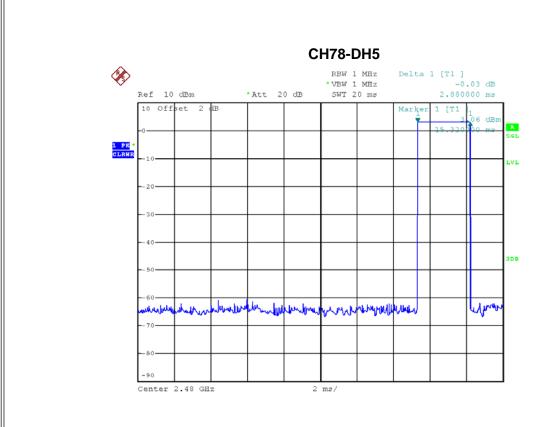
















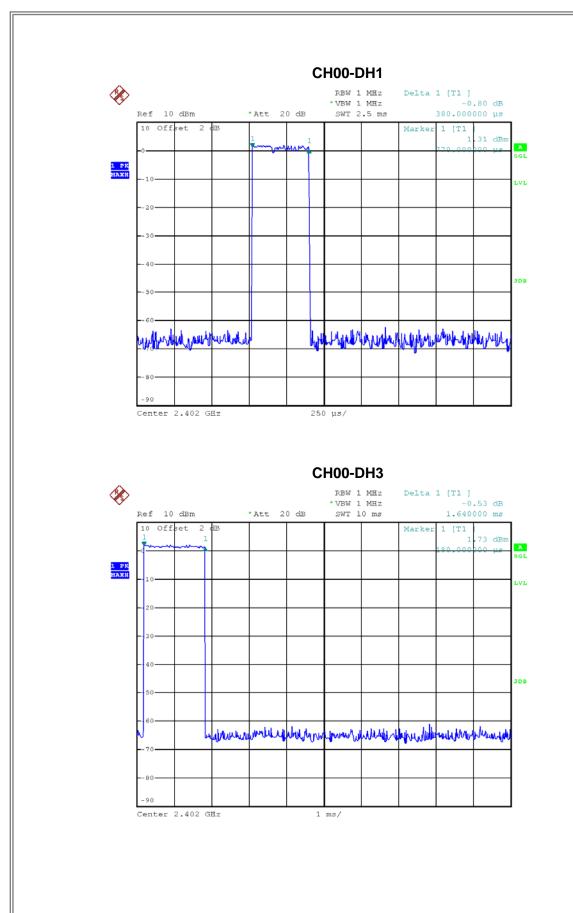
Test Mode : TX Mode\_3Mbps

Data Packet	Frequency	Pulse	Dwell	Limits(s)	Test Result
Data Facket	rrequeries	Duration(ms)	Time(s)	Limito(3)	
DH5	2402	2.8800	0.3072	0.4000	Pass
DH3	2402	1.6400	0.2624	0.4000	Pass
DH1	2402	0.3800	0.1216	0.4000	Pass
DH5	2441	2.8800	0.3072	0.4000	Pass
DH3	2441	1.6400	0.2624	0.4000	Pass
DH1	2441	0.3800	0.1216	0.4000	Pass
DH5	2480	2.8800	0.3072	0.4000	Pass
DH3	2480	1.6400	0.2624	0.4000	Pass
DH1	2480	0.3800	0.1216	0.4000	Pass

Report No.: BTL-FCCP-1-1701C155K Page 106 of 141



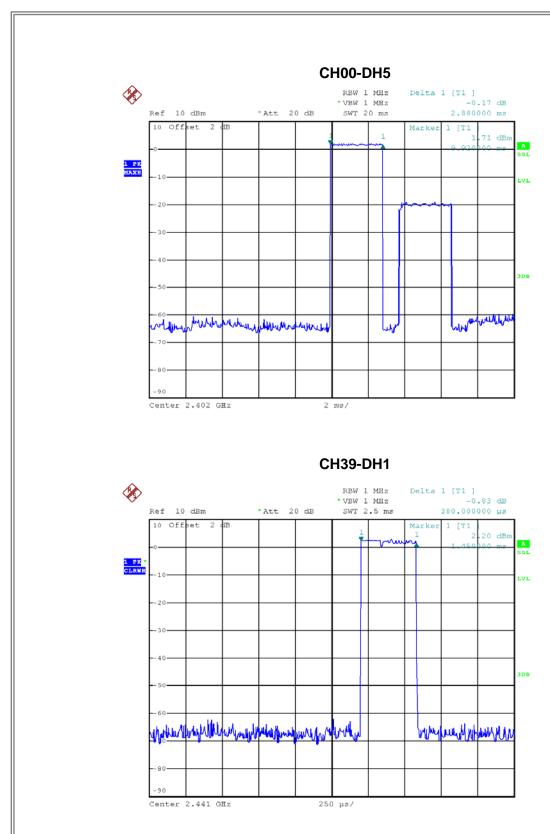




Report No.: BTL-FCCP-1-1701C155K Page 107 of 141

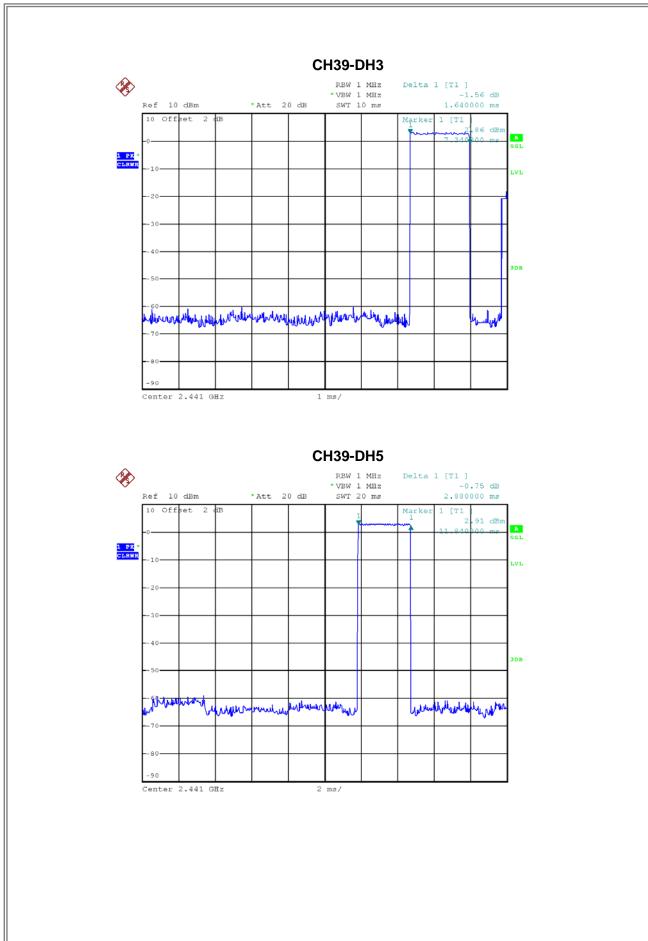








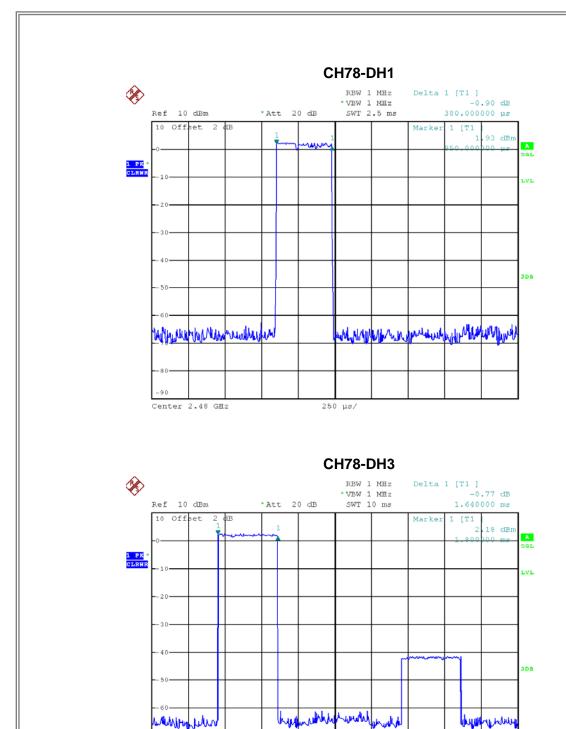




Report No.: BTL-FCCP-1-1701C155K Page 109 of 141



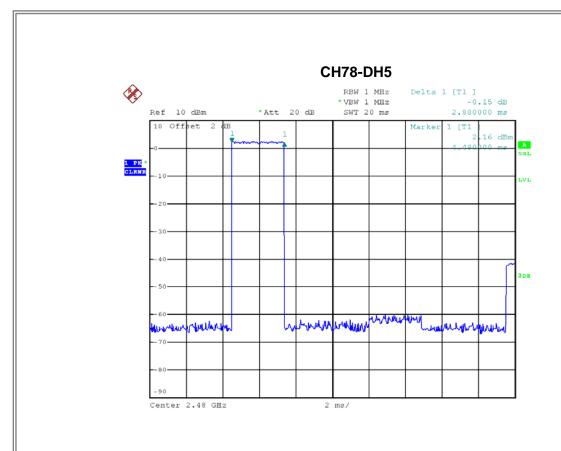




Center 2.48 GHz











## ATTACHMENT G - HOPPING CHANNEL SEPARATION MEASUREMENT

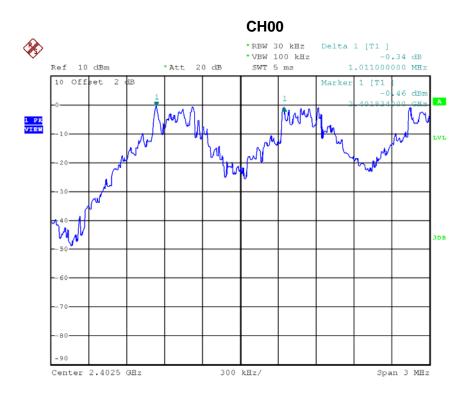
Report No.: BTL-FCCP-1-1701C155K Page 112 of 141





Test Mode: Hopping on \_1Mbps

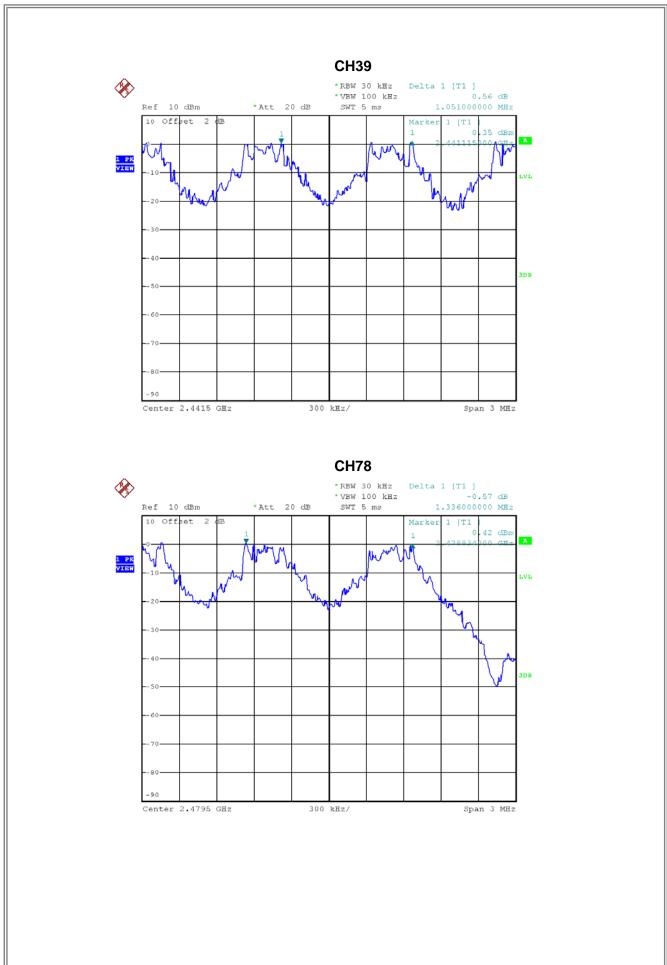
Frequency	Channel Separation	2/3 of 20dB Bandwidth	Toot Dooult
(MHz)	(MHz)	(MHz)	Test Result
2402	1.011	1.011 0.689	
2441	1.051	0.644	Pass
2480	1.336	0.672	Pass



Report No.: BTL-FCCP-1-1701C155K Page 113 of 141







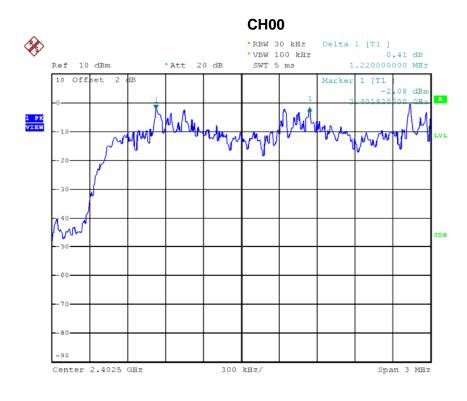
Report No.: BTL-FCCP-1-1701C155K Page 114 of 141





Test Mode : Hopping on \_3Mbps

Frequency	Channel Separation	2/3 of 20dB Bandwidth	Took Dooult
(MHz)	(MHz)	(MHz)	Test Result
2402	1.220	0.863 Pass	
2441	1.202	0.865	Pass
2480	1.200	0.859	Pass

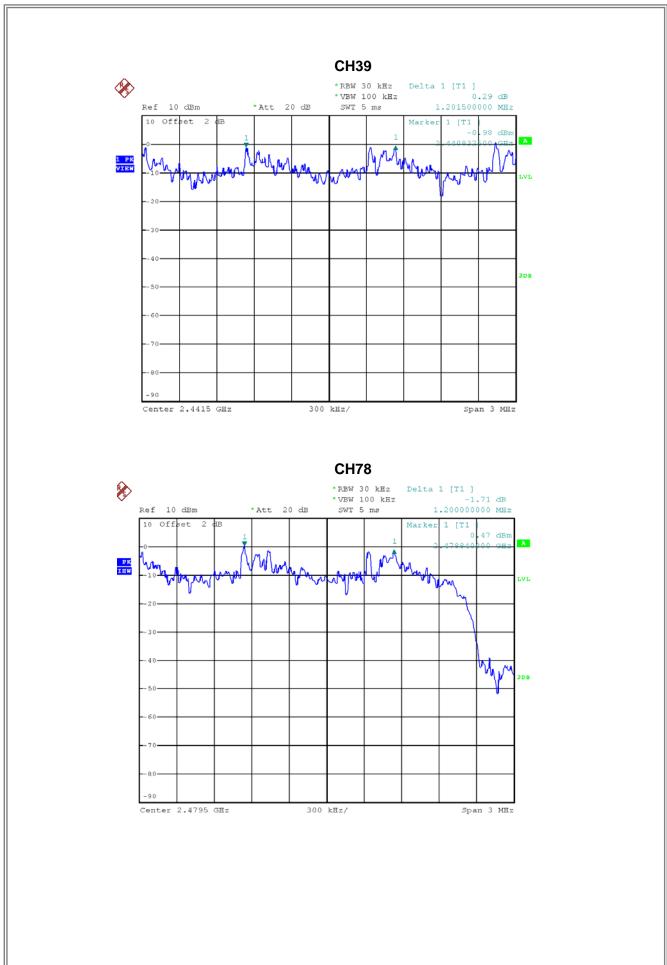


Report No.: BTL-FCCP-1-1701C155K Page 115 of 141





Page 116 of 141







ATTACHMENT H - BANDWIDTH			

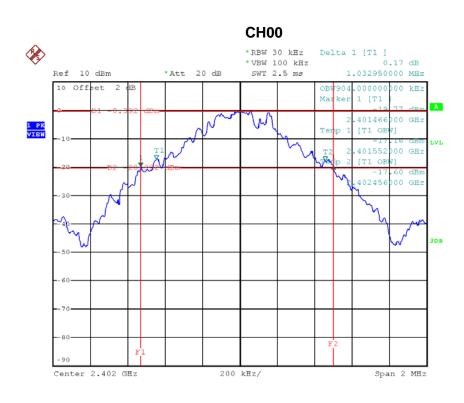
Report No.: BTL-FCCP-1-1701C155K Page 117 of 141





Test Mode : TX M	lode 1Mbps
------------------	------------

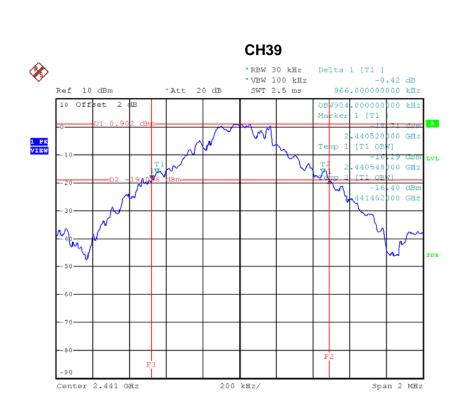
Frequency (MHz)	20dB Bandwidth (MHz)	99% Occupied BW (MHz)	Test Result	
2402	1.033	0.904	Pass	
2441	0.966	0.904	Pass	
2480	1.007	0.896	Pass	

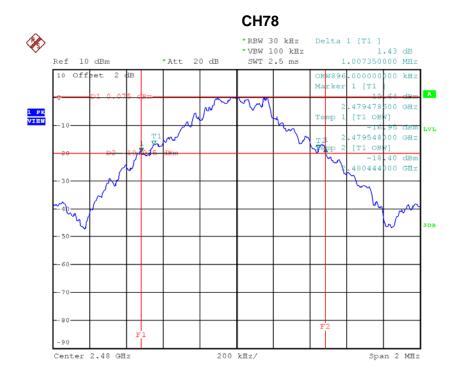


Report No.: BTL-FCCP-1-1701C155K Page 118 of 141









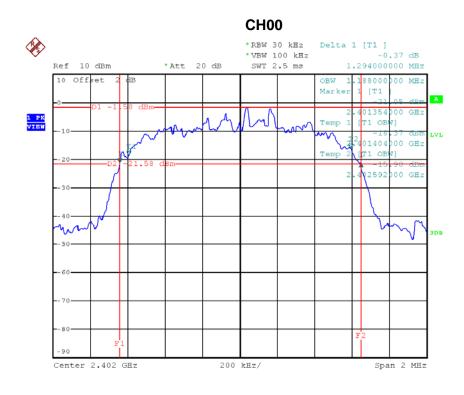
Report No.: BTL-FCCP-1-1701C155K Page 119 of 141





Test Mode: TX Mode \_3Mbps

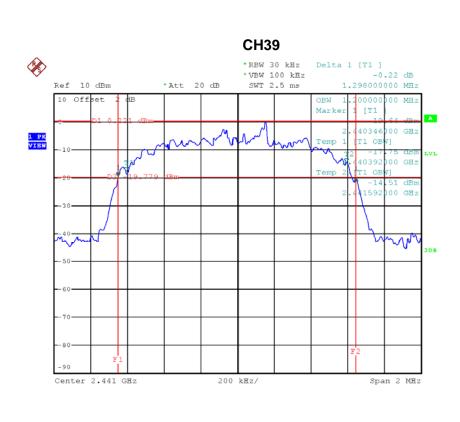
Frequency (MHz)	20dB Bandwidth (MHz)	99% Occupied BW (MHz)	Test Result
2402	1.294	1.188	Pass
2441	1.298	1.200	Pass
2480	1.288	1.192	Pass

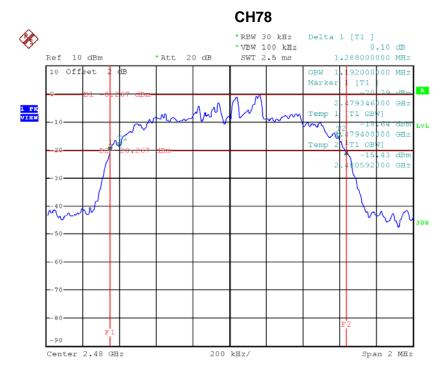


Report No.: BTL-FCCP-1-1701C155K Page 120 of 141









Report No.: BTL-FCCP-1-1701C155K Page 121 of 141





ATTACHMENT I - PEAK OUTPUT POWER			

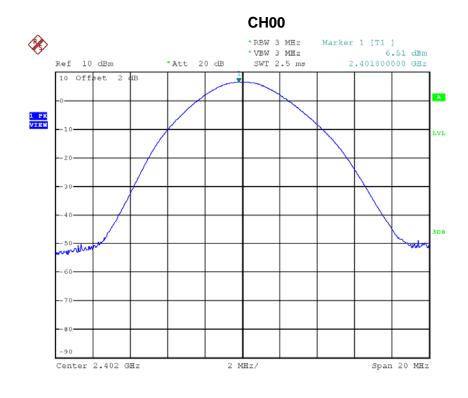
Report No.: BTL-FCCP-1-1701C155K Page 122 of 141





Test Mode : TX Mode \_1Mbps

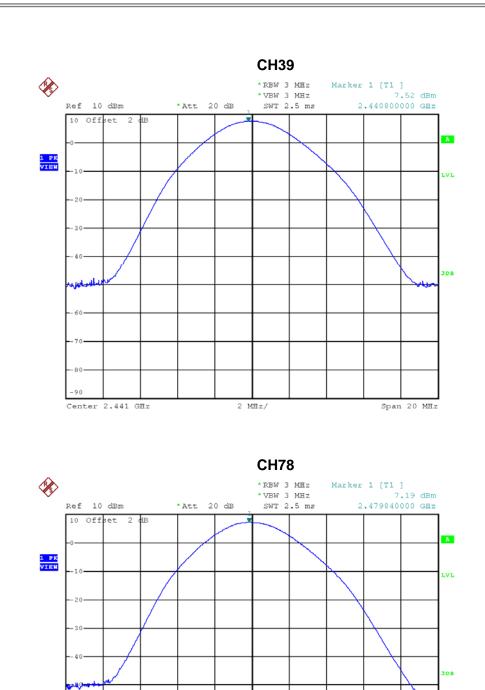
Frequency	Conducted Power	Conducted Power	Max. Limit	Max. Limit	Toot Docult
(MHz)	(dBm)	(W)	(dBm)	(W)	Test Result
2402	6.51	0.0045	30.00	1.00	Pass
2441	7.52	0.0056	30.00	1.00	Pass
2480	7.19	0.0052	30.00	1.00	Pass



Report No.: BTL-FCCP-1-1701C155K Page 123 of 141







2 MHz/

Center 2.48 GHz

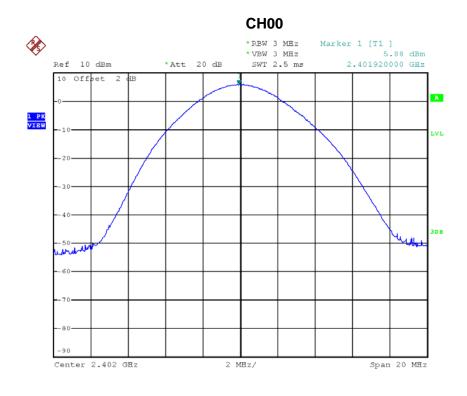
Span 20 MHz





Test Mode: TX Mode \_3Mbps

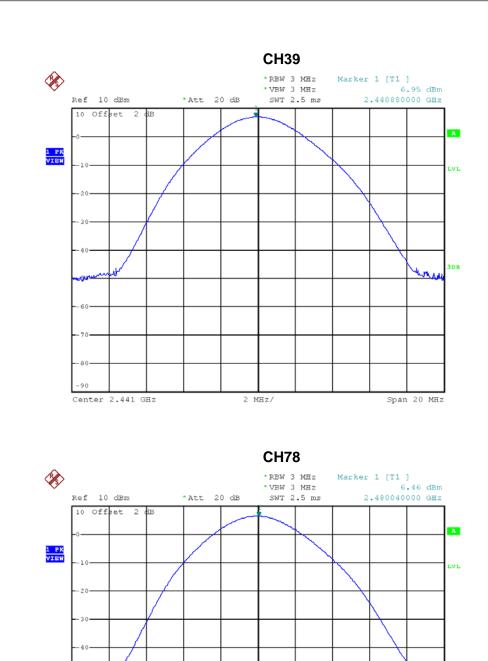
Frequency	Conducted Power	Conducted Power	Max. Limit	Max. Limit	Toot Dooult
(MHz)	(dBm)	(W)	(dBm)	(W)	Test Result
2402	5.88	0.0039	30.00	1.00	Pass
2441	6.95	0.0050	30.00	1.00	Pass
2480	6.46	0.0044	30.00	1.00	Pass



Report No.: BTL-FCCP-1-1701C155K Page 125 of 141







2 MHz/

Span 20 MHz

Center 2.48 GHz



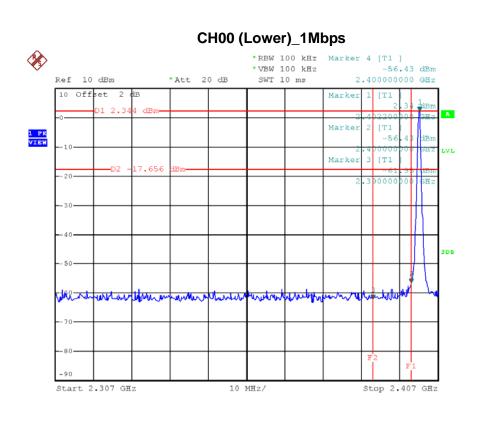


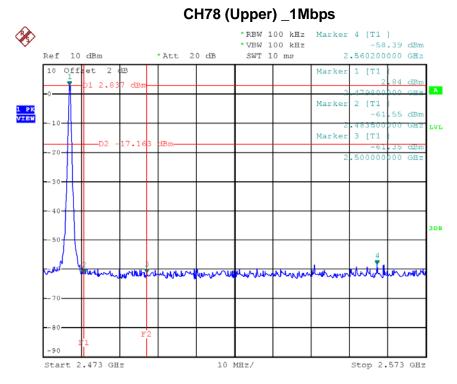
# ATTACHMENT J - ANTENNA CONDUCTED SPURIOUS EMISSION

Report No.: BTL-FCCP-1-1701C155K Page 127 of 141







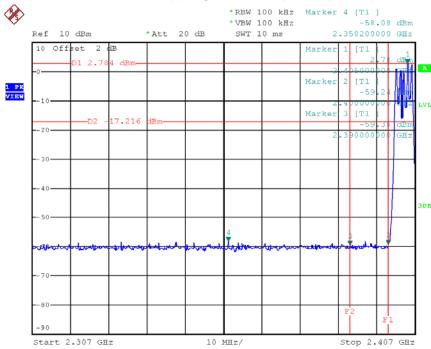


Report No.: BTL-FCCP-1-1701C155K Page 128 of 141

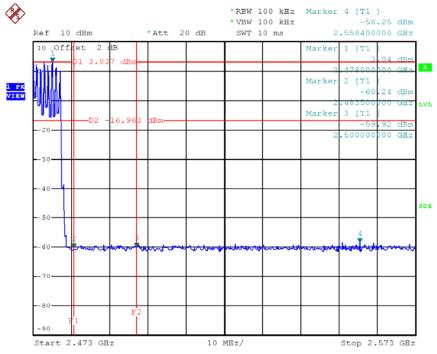








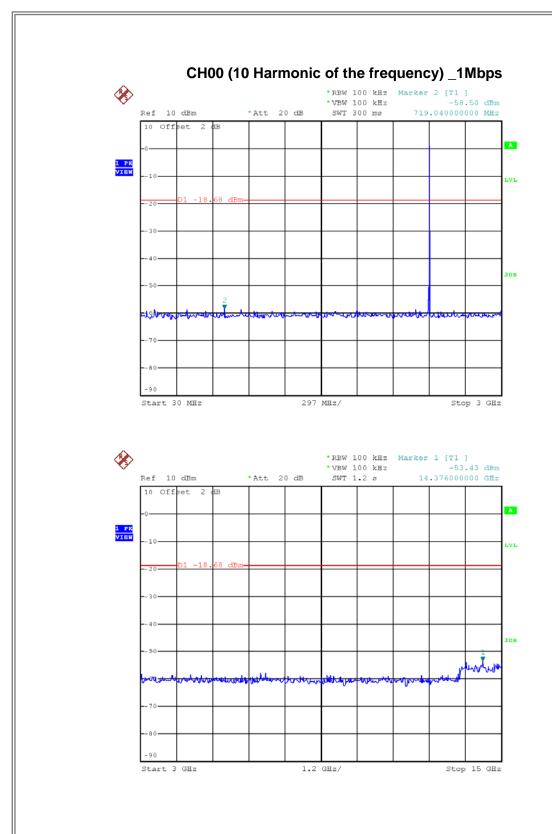
#### CH78 Hopping on mode (Upper) \_1Mbps



Page 129 of 141 Report No.: BTL-FCCP-1-1701C155K



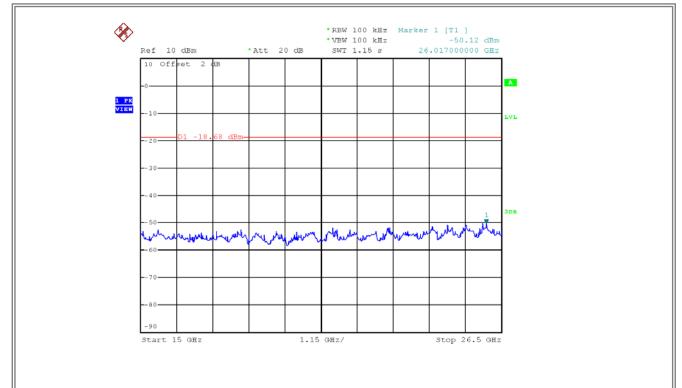




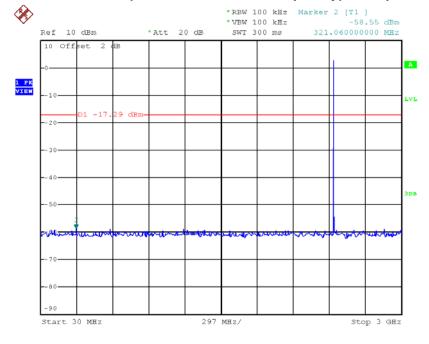
Report No.: BTL-FCCP-1-1701C155K Page 130 of 141







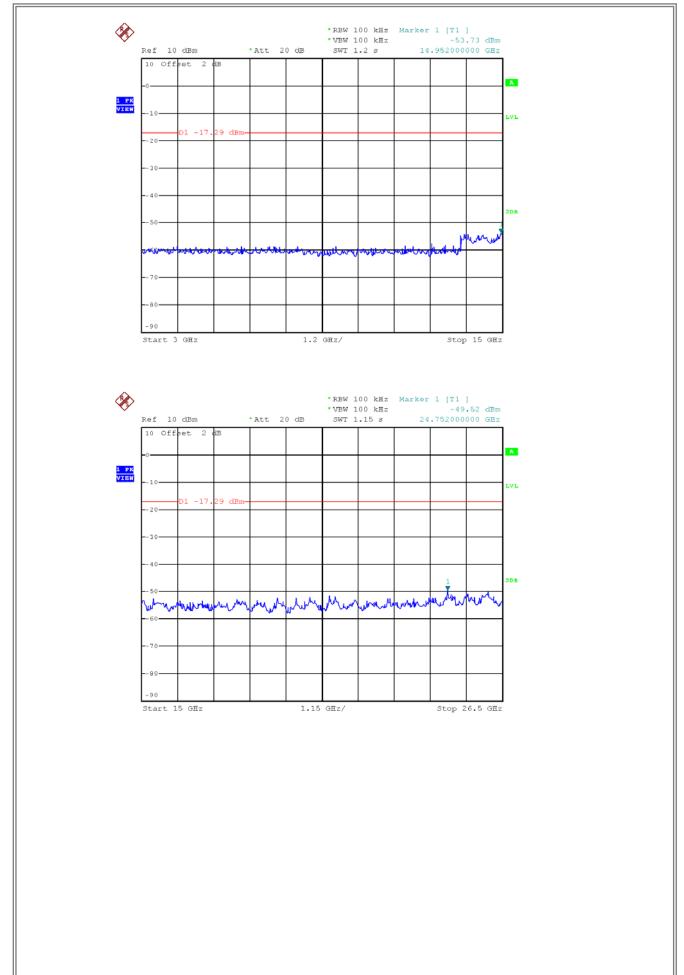
#### CH39 (10 Harmonic of the frequency) \_1Mbps



Report No.: BTL-FCCP-1-1701C155K Page 131 of 141



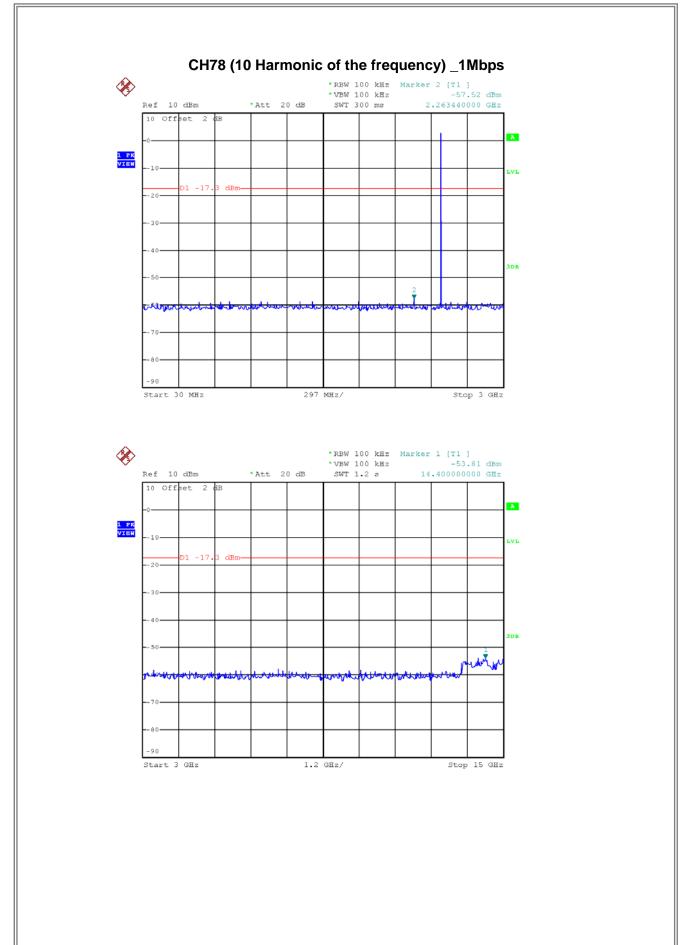




Page 132 of 141

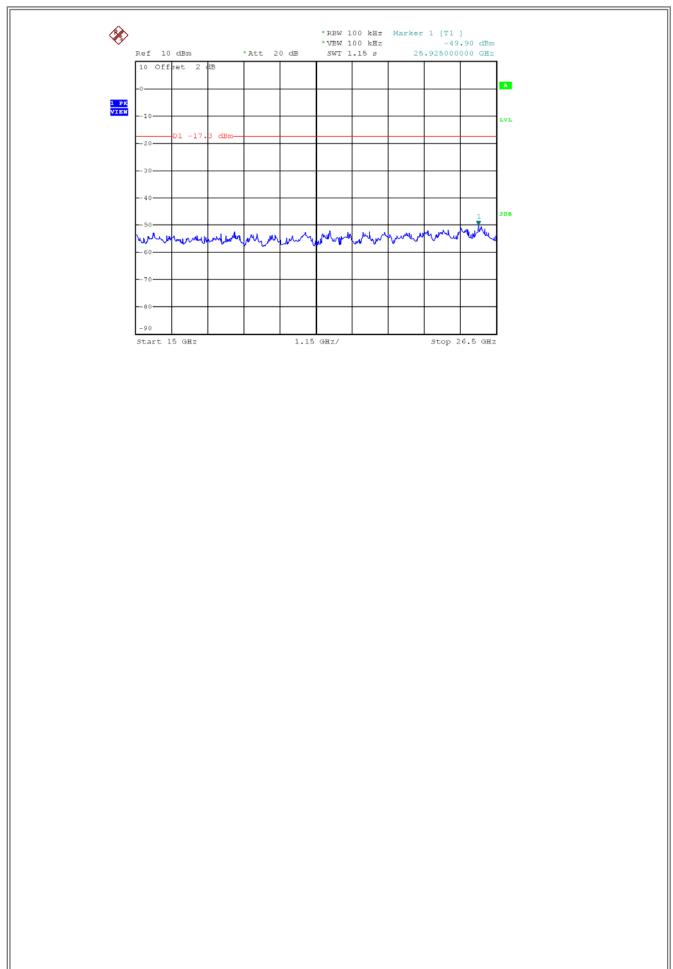






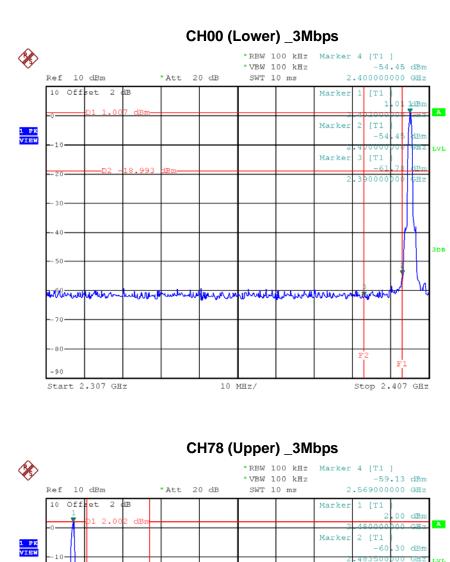


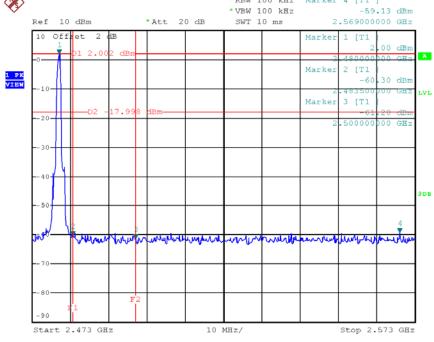










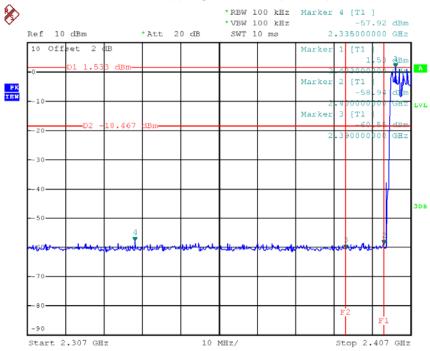


Report No.: BTL-FCCP-1-1701C155K Page 135 of 141

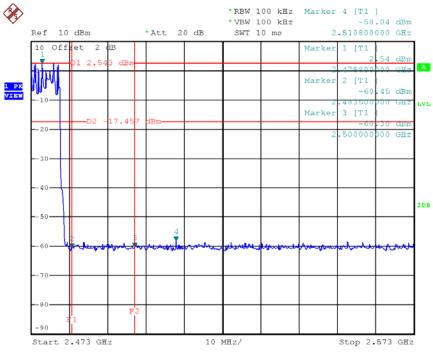








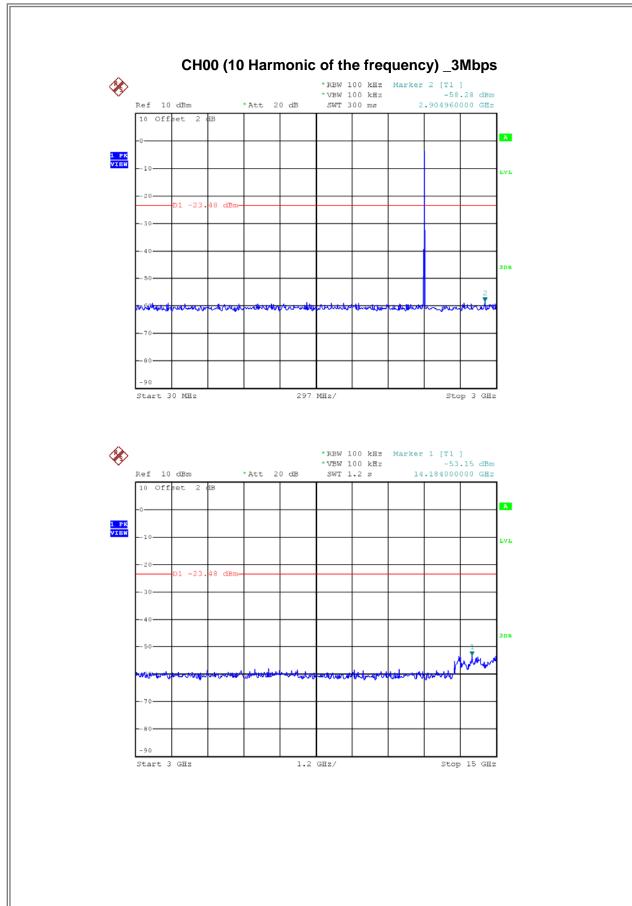
### CH78 Hopping on mode (Upper) \_3Mbps



Report No.: BTL-FCCP-1-1701C155K Page 136 of 141



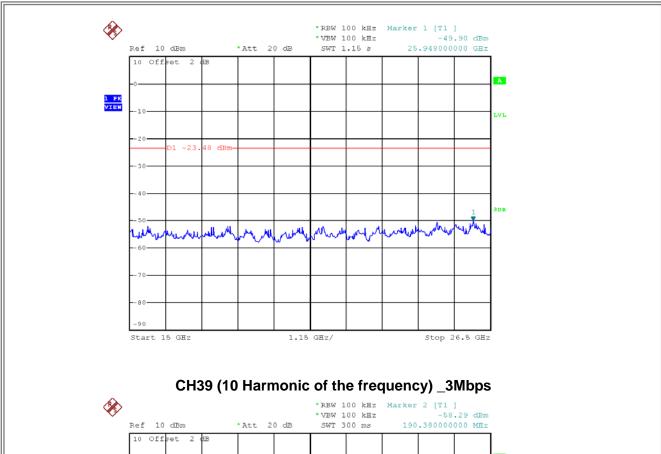


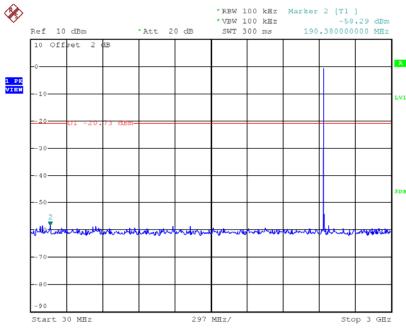


Report No.: BTL-FCCP-1-1701C155K Page 137 of 141





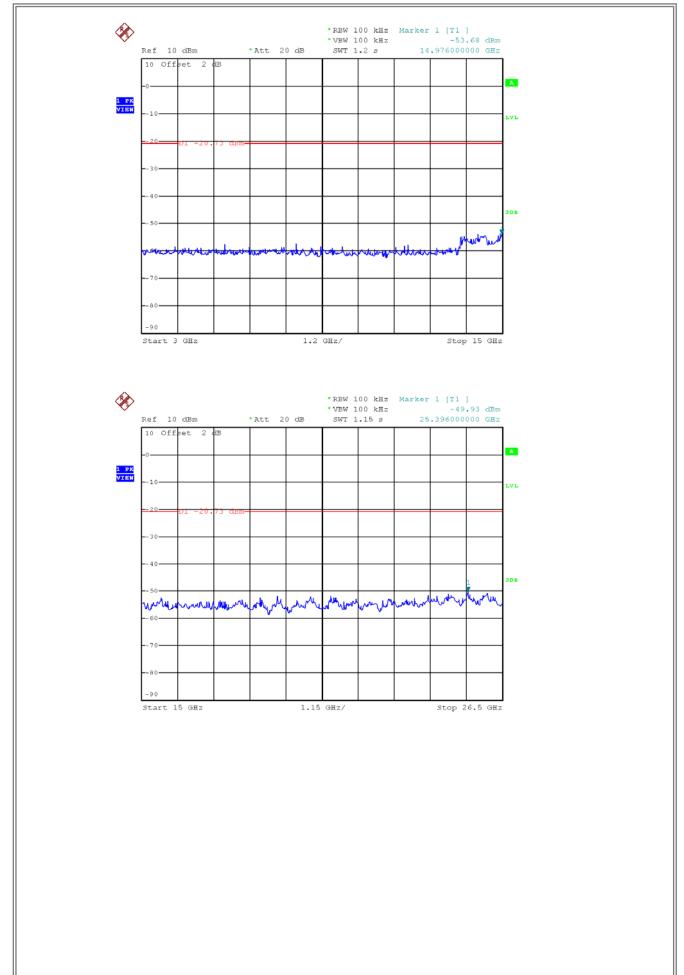




Report No.: BTL-FCCP-1-1701C155K Page 138 of 141

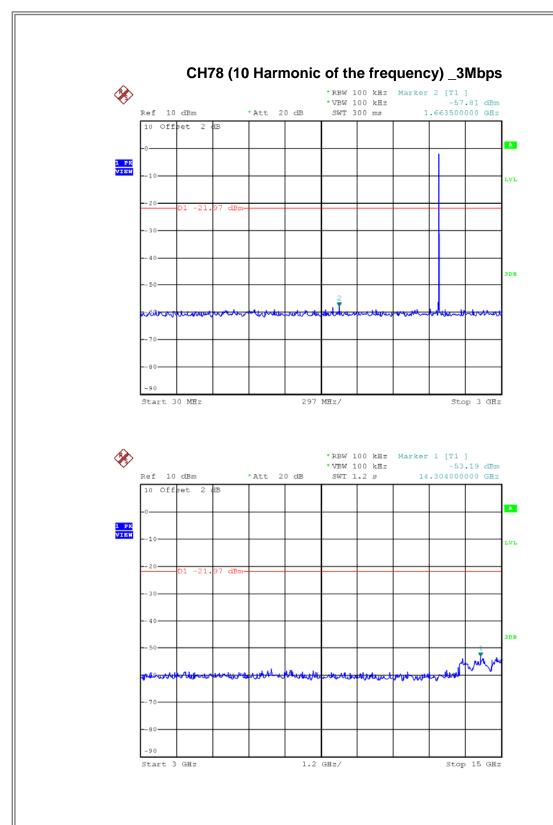












Report No.: BTL-FCCP-1-1701C155K Page 140 of 141





