

Page:

Report No.: SZEMO11040202401

1 of 46

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FCC REPORT

Application No: SZEMO110402024RF

Applicant: Bensussen Deutsch & Associates, Inc. (BDA)

Product Name: Pro Pack Mini Plus

Operation Frequency: 2402MHz to 2480MHz

FCC ID: YFK-09118601

Standards: FCC CFR Title 47 Part 15 Subpart C Section 15.247: 2010

Date of Receipt: 2011-05-09

Date of Test: 2011-05-10 to 2011-05-12

Date of Issue: 2011-05-20

Test Result : PASS *

Authorized Signature:

Jack Zhang

EMC Laboratory Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

The 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. All test results in this report can be traceable to National or International Standards.

^{*} In the configuration tested, the EUT complied with the standards specified above.



Report No.: SZEMO11040202401

Page: 2 of 46

2 Contents

			Page
1	C	OVER PAGE	
2	C	ONTENTS	2
3		EST SUMMARY	
4		ENERAL INFORMATION	
7			
	4.1	CLIENT INFORMATION	
	4.2	GENERAL DESCRIPTION OF E.U.T.	
	4.3	E.U.T OPERATION MODE	
	4.4	DESCRIPTION OF SUPPORT UNITS	
	4.5	TEST FACILITY	
	4.6	TEST LOCATION	
	4.7	OTHER INFORMATION REQUESTED BY THE CUSTOMER	
	4.8	TEST INSTRUMENTS LIST	8
5	TE	EST RESULTS AND MEASUREMENT DATA	9
	5.1	Antenna requirement:	g
	5.2	CONDUCTED PEAK OUTPUT POWER	
	5.3	20dB Occupy Bandwidth	
	5.4	CARRIER FREQUENCIES SEPARATION	
	5.5	HOPPING CHANNEL NUMBER	
	5.6	DWELL TIME	21
	5.7	BAND EDGE	
	5.8	RF ANTENNA CONDUCTED SPURIOUS EMISSIONS	28
	5.9	PSEUDORANDOM FREQUENCY HOPPING SEQUENCE	31
	5.10	RADIATED EMISSION	
	5.	10.1 Radiated emission below 1GHz	
	5.	10.2 Transmitter emission above 1GHz	
	5	10.3 Band edge (Radiated Emission)	39-46
	o.	rolo Bara cago (riadiatea Erricolori)	



Report No.: SZEMO11040202401

Page: 3 of 46

3 Test Summary

Test Item	Section in CFR 47	Result
Antenna Requirement	15.203/15.247 (c)	Pass
Conducted Peak Output Power	15.247 (b)(1)	Pass
20dB Occupied Bandwidth	15.247 (a)(1)	Pass
Carrier Frequencies Separation	15.247 (a)(1)	Pass
Hopping Channel Number	15.247 (b)	Pass
Dwell Time	15.247 (a)(1)	Pass
Pseudorandom Frequency Hopping Sequence	15.247(b)(4)&TCB Exclusion List (7 July 2002)	Pass
Radiated Emission	15.205/15.209	Pass
Band Edge	15.247(d)	Pass

Remark: Pass: The EUT complies with the essential requirements in the standard.

Fail: The EUT does not comply with the essential requirements in the standard.



Report No.: SZEMO11040202401

Page: 4 of 46

4 General Information

4.1 Client Information

Applicant:	Bensussen Deutsch & Associates, Inc.(BDA)				
Address of Applicant:	15525 Woodinville—Redmond Road NE Woodinville, WA 98072 USA				

4.2 General Description of E.U.T.

Product Name:	Pro Pack Mini Plus
Model No.:	091186, 000016, 000018, 000017, 000215
	Only the model No.091186 was tested, since the electrical circuit design, layout, components used and internal wiring were identical
	for the above items, only the different on model number and color.
Operation Frequency:	2402MHz~2480MHz
Channel numbers:	79
Channel separation:	1MHz
Modulation type:	GFSK
Antenna Type:	Integral
Antenna gain:	0dBi
Power supply:	3.0V DC (1.5V x 2 "AA" Size Batteries)

Oper	Operation Frequency of each channel										
1	2402MHz	16	2417MHz	31	2432MHz	46	2447MHz	61	2462MHz	76	2477MHz
2	2403MHz	17	2418MHz	32	2433MHz	47	2448MHz	62	2463MHz	77	2478MHz
3	2404MHz	18	2419MHz	33	2434MHz	48	2449MHz	63	2464MHz	78	2479MHz
4	2405MHz	19	2420MHz	34	2435MHz	49	2450MHz	64	2465MHz	79	2480MHz
5	2406MHz	20	2421MHz	35	2436MHz	50	2451MHz	65	2466MHz		
6	2407MHz	21	2422MHz	36	2437MHz	51	2452MHz	66	2467MHz		
7	2408MHz	22	2423MHz	37	2438MHz	52	2453MHz	67	2468MHz		
8	2409MHz	23	2424MHz	38	2439MHz	53	2454MHz	68	2469MHz		
9	2410MHz	24	2425MHz	39	2440MHz	54	2455MHz	69	2470MHz		
10	2411MHz	25	2426MHz	40	2441MHz	55	2456MHz	70	2471MHz		
11	2412MHz	26	2427MHz	41	2442MHz	56	2457MHz	71	2472MHz		
12	2413MHz	27	2428MHz	42	2443MHz	57	2458MHz	72	2473MHz		
13	2414MHz	28	2429MHz	43	2444MHz	58	2459MHz	73	2474MHz		
14	2415MHz	29	2430MHz	44	2445MHz	59	2460MHz	74	2475MHz		
15	2416MHz	30	2431MHz	45	2446MHz	60	2461MHz	75	2476MHz		



Report No.: SZEMO11040202401

Page: 5 of 46

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Channel	Frequency		
The Lowest channel	2402MHz		
The Middle channel	2441MHz		
The Highest channel	2480MHz		



Report No.: SZEMO11040202401

Page: 6 of 46

4.3 E.U.T Operation mode

Operating Environment:	
Temperature:	24.0 °C
Humidity:	52 % RH
Atmospheric Pressure:	1008 mbar
Test mode:	
Normal operation mode:	Keep the EUT connect with Wii
Non-hopping transmitting mode:	Keep the EUT in continuously transmitting mode at specific channel with modulation signal
Hopping transmitting mode:	Keep the EUT in hopping mode with modulation signal

4.4 Description of Support Units

The EUT has been tested with associated equipment below.

Description	Manufacturer	Model No.
Wii	Nintendo	RVL-001(JPN)
Samsung Television	Samsung	2232MW

SGS

SGS-CSTC Standards Technical Services Ltd.

Report No.: SZEMO11040202401

Page: 7 of 46

4.5 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

CNAS (No. CNAS L2929)

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

VCCI

The 3m Semi-anechoic chamber and Shielded Room (7.5m x 4.0m x 3.0m) of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-2197 and C-2383 respectively.

Date of Registration: September 29, 2008. Valid until September 28, 2011.

FCC - Registration No.: 556682

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 556682, June 27, 2008.

Industry Canada (IC)

The 3m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1.

4.6 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch E&E Lab
No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China
518057

Telephone: +86 (0) 755 2601 2053 Fax: +86 (0) 755 2671 0594

No tests were sub-contracted.

4.7 Other Information Requested by the Customer

None.



Report No.: SZEMO11040202401

Page: 8 of 46

4.8 Test Instruments list

RE i	RE in Chamber							
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (yyyy-mm-dd)	Cal.Due date (yyyy-mm-dd)		
1	3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEL0017	2010-06-17	2011-06-17		
2	EMI Test Receiver	Rohde & Schwarz	ESIB26	SEL0023	2010-11-05	2011-11-05		
3	EMI Test software	AUDIX	E3	SEL0050	N/A	N/A		
4	Coaxial cable	SGS	N/A	SEL0028	2008-06-18	2011-06-18		
5	BiConiLog Antenna (26-3000MHz)	ETS-LINDGREN	3142C	SEL0015	2010-11-09	2011-11-09		
6	Double-ridged horn (1-18GHz)	ETS-LINDGREN	3117	SEL0006	2010-11-09	2011-11-09		
7	Horn Antenna (18-26GHz)	ETS-LINDGREN	3160	SEL0076	2010-11-09	2011-11-09		
8	Pre-amplifier (0.1-1300MHz)	Agilent Technologies	8447D	SEL0053	2010-06-02	2011-06-02		
9	Pre-Amplifier (0.1-26.5GHz)	Compliance Directions Systems Inc.	PAP-0126	SEL0168	2010-10-27	2011-10-27		
10	Pre-amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	SEL0080	2010-06-04	2011-06-04		
11	Band filter	Amindeon	82346	SEL0094	2010-06-02	2011-06-02		

RF c	RF conducted								
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (yyyy-mm-dd)	Cal.Due date (yyyy-mm-dd)			
1	Spectrum Analyzer	Rohde & Schwarz	FSP 30	SEL0154	2010-10-27	2011-10-27			
2	Coaxial cable	SGS	N/A	SEL0028	2008-06-18	2011-06-18			



Report No.: SZEMO11040202401

Page: 9 of 46

5 Test results and Measurement Data

5.1 Antenna requirement:

Standard requirement: FCC Part15 C Section 15.203 /247(c)

15.203 requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

15.247(b) (4) requirement:

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

E.U.T Antenna:

The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 0dBi.





Report No.: SZEMO11040202401

Page: 10 of 46

5.2 Conducted Peak Output Power

Test Requirement:	FCC Part15 C Section 15.247 (b)(1)				
Test Method:	ANSI C63.10:2009				
Limit:	30dBm				
Test setup:	Spectrum Analyzer E.U.T Non-Conducted Table				
	Ground Reference Plane				
	Remark: Offset the High-Frequency cable loss 1.5dB in the spectrum analyzer.				
Test Instruments:	Refer to section 4.8 for details				
Test state:	Non-hopping transmitting with modulation.				
Test results:	Pass				

Measurement Data

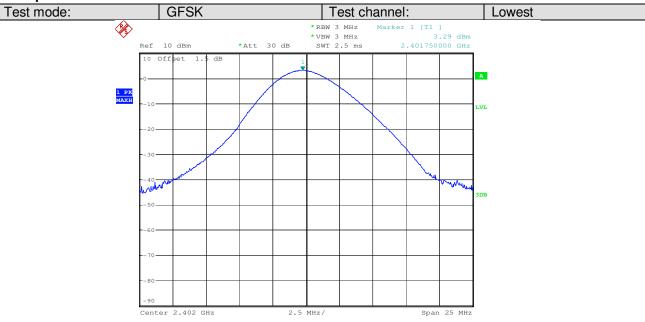
GFSK mode							
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result				
Lowest	3.29	30.00	Pass				
Middle	3.02	30.00	Pass				
Highest	2.67	30.00	Pass				

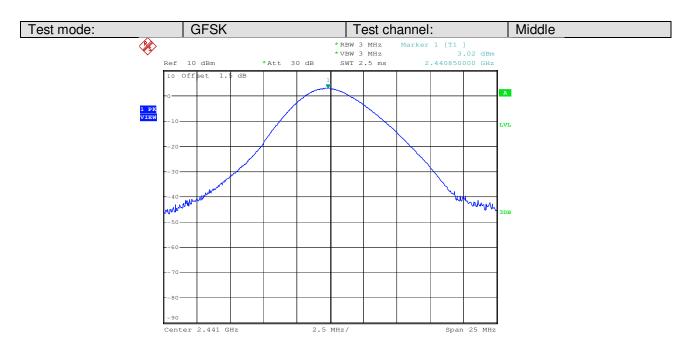


Report No.: SZEMO11040202401

Page: 11 of 46

Test plot as follows:

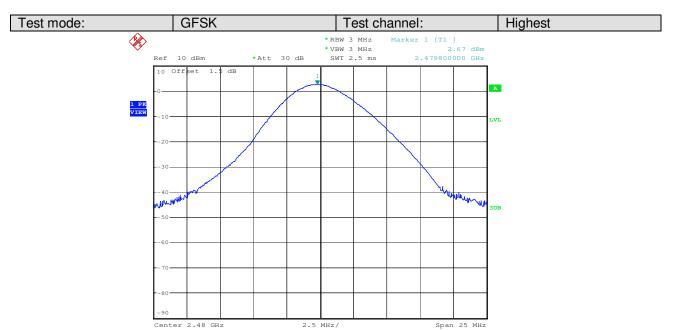






Report No.: SZEMO11040202401

Page: 12 of 46





Report No.: SZEMO11040202401

Page: 13 of 46

5.3 20dB Occupy Bandwidth

Test Requirement:	FCC Part15 C Section 15.247 (a)(1)			
Test Method:	ANSI C63.10:2009			
Limit:	NA			
Test setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane			
Test Instruments:	Refer to section 4.8 for details			
Test state:	Non-hopping transmitting with modulation.			
Test results:	Pass			

Measurement Data

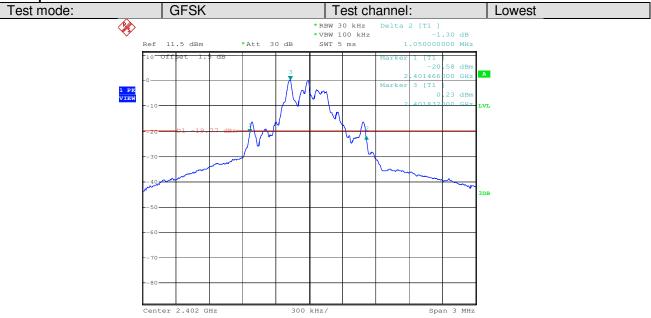
Test channel	20dB Occupy Bandwidth (KHz)
	GFSK
Lowest	1050
Middle	1050
Highest	1044



Report No.: SZEMO11040202401

Page: 14 of 46

Test plot as follows:







Report No.: SZEMO11040202401

Page: 15 of 46



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Report No.: SZEMO11040202401

Page: 16 of 46

5.4 Carrier Frequencies Separation

Test Requirement:	FCC Part15 C Section 15.247 (a)(1)			
Test Method:	ANSI C63.10:2009			
Test setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane			
Test Instruments:	Refer to section 4.8 for details			
Test state:	Hopping transmitting with modulation.			
Limit:	0.025MHz or 2/3 of the 20dB bandwidth (whichever is greater)			
Test results:	Pass			

Measurement Data

GFSK mode							
Test channel Carrier Frequencies Limit (KHz) Result							
Lowest	1000	≥700	Pass				
Middle	1010	≥700	Pass				
Highest	1000	≥700	Pass				

Note: According to section 5.4,

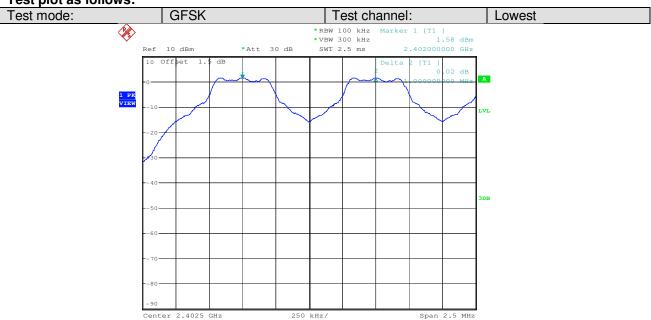
Mode	20dB bandwidth (KHz)	Limit (KHz)		
Wode	(worse case)	(Carrier Frequencies Separation)		
GFSK	1050	700		

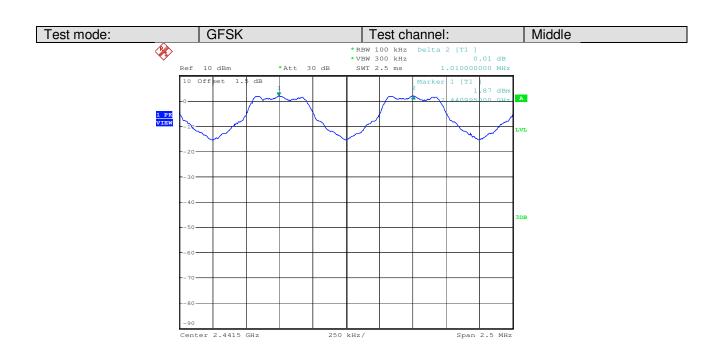


Report No.: SZEMO11040202401

Page: 17 of 46

Test plot as follows:



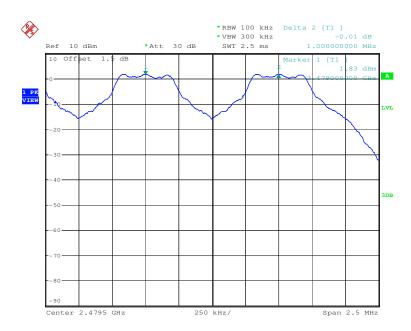




Report No.: SZEMO11040202401

Page: 18 of 46

Test mode: GFSK Test channel: Highest



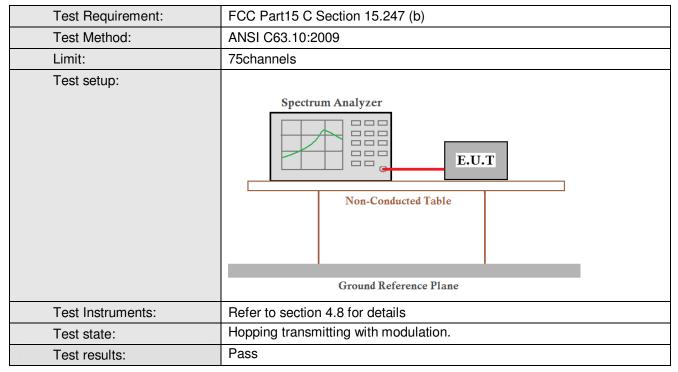
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Report No.: SZEMO11040202401

Page: 19 of 46

5.5 Hopping Channel Number



Measurement Data

Mode	Hopping channel numbers	Limit					
GFSK	79	≥75					



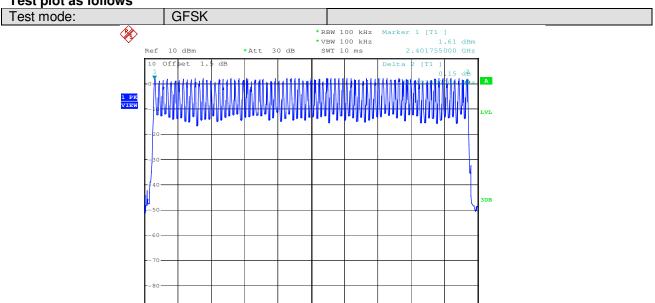
Report No.: SZEMO11040202401

20 of 46 Page:

Span 83.5 MHz

Test plot as follows

Center 2.441 GHz



8.35 MHz/



Report No.: SZEMO11040202401

Page: 21 of 46

5.6 Dwell Time

Test Requirement:	FCC Part15 C Section 15.247 (a)(1)			
Test Method:	ANSI C63.10:2009			
Limit:	0.4 Second			
Test setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane			
Test Instruments:	Refer to section 4.8 for details			
Test state:	Hopping transmitting with modulation.			
Test results:	Pass			

Measurement Data

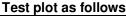
iiioaoa	icincin bu	···		
Mode	Packet	Length of transmission time (msec)	Result (msec)	Limit (msec)
	DH1	0.52	50 times/5sec*(79*0.4)*0.52=164.320	400
GFSK	DH3	1.77	25 times/5sec*(79*0.4)*1.77=279.660	400
-	DH5	3.015	17 times/5sec*(79*0.4)*3.015=323.932	400

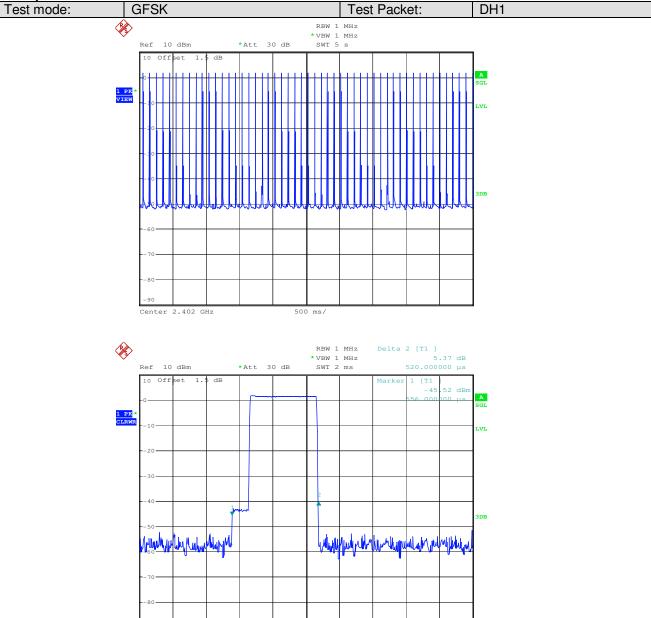
Test Result: PASS



Report No.: SZEMO11040202401

Page: 22 of 46





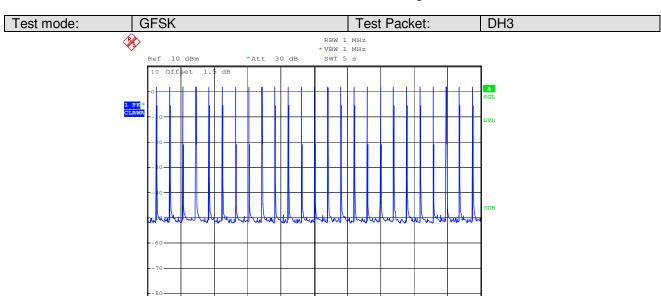
Center 2.402 GHz

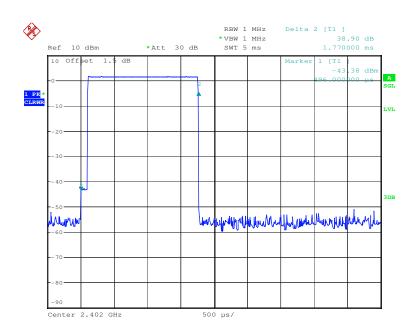
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Report No.: SZEMO11040202401

Page: 23 of 46



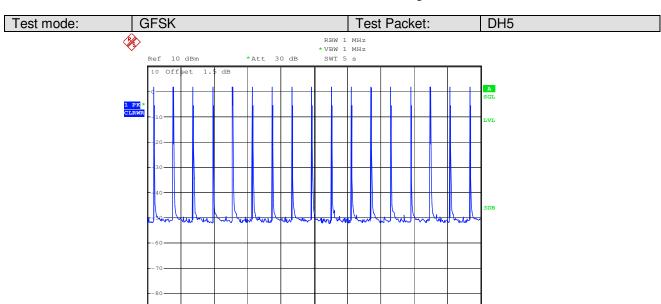


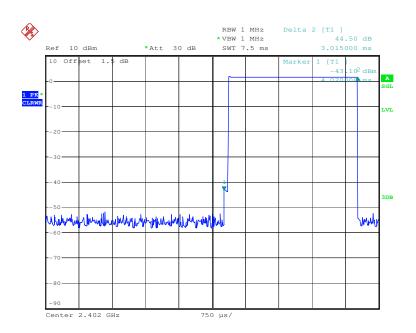
Center 2.402 GHz



Report No.: SZEMO11040202401

Page: 24 of 46





Center 2.402 GHz



Report No.: SZEMO11040202401

Page: 25 of 46

5.7 Band Edge

Test Requirement:	FCC Part15 C Section 15.247 (d)			
Test Method:	ANSI C63.10:2009			
Limit:	In any 100 kHz 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.			
Test setup:				
	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane			
	Remark: Offset the High-Frequency cable loss 1.5dB in the spectrum analyzer.			
Test Instruments:	Refer to section 4.8 for details			
Test state:	Hopping transmitting mode and Non-hopping transmitting mode.			
Test results:	Pass			

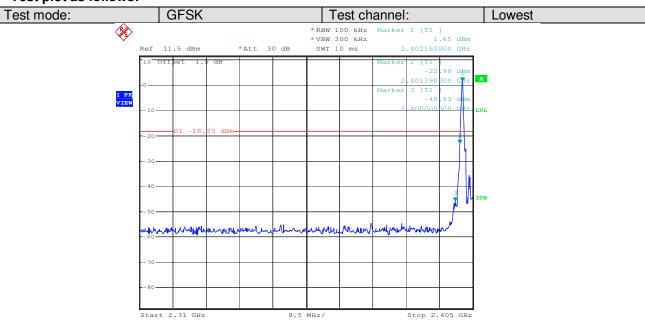
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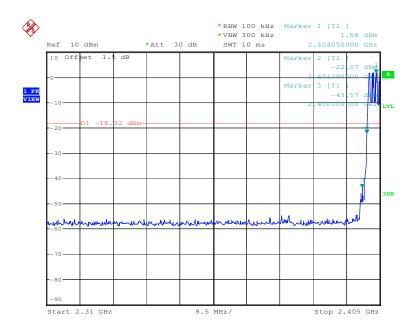


Report No.: SZEMO11040202401

Page: 26 of 46

Test plot as follows:



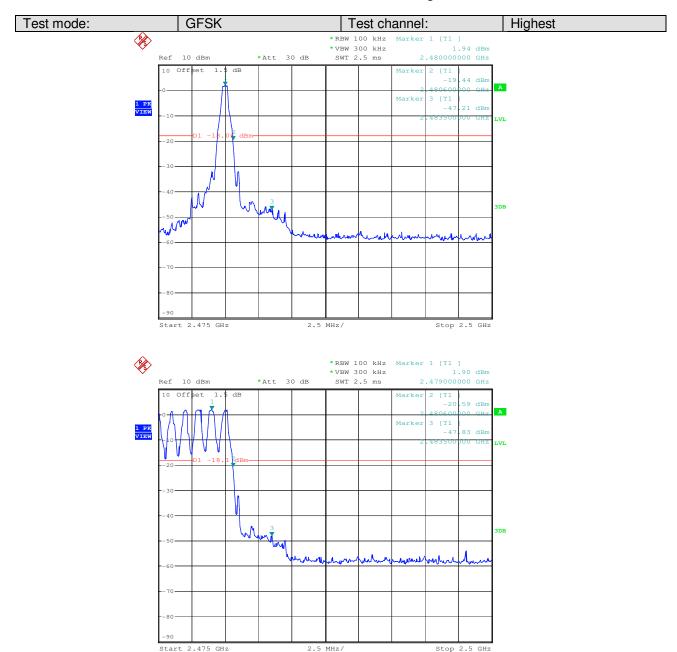


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Report No.: SZEMO11040202401

Page: 27 of 46



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Report No.: SZEMO11040202401

Page: 28 of 46

5.8 RF Antenna Conducted spurious emissions

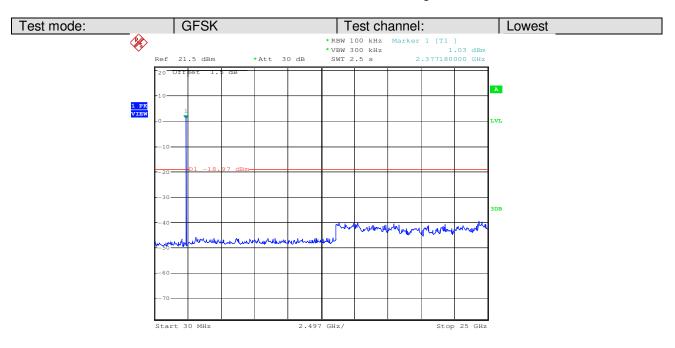
Test Requirement:	FCC Part15 C Section 15.247 (d)				
Test Method:	ANSI C63.10:2009				
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 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.				
Test setup:					
	Spectrum Analyzer E.U.T Non-Conducted Table				
	Ground Reference Plane				
	Remark: Offset the High-Frequency cable loss 1.5dB in the spectrum analyzer.				
Test Instruments:	Refer to section 4.8 for details				
Test results:	Pass				

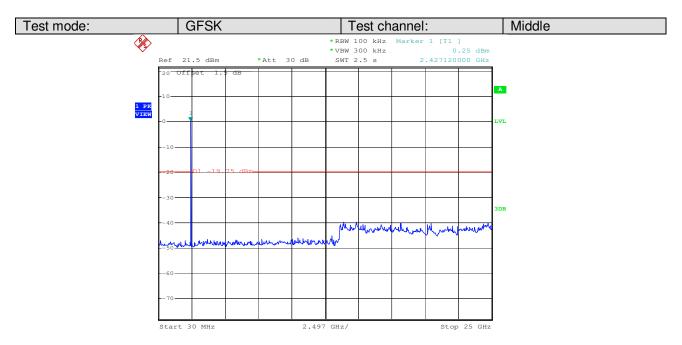
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Report No.: SZEMO11040202401

Page: 29 of 46



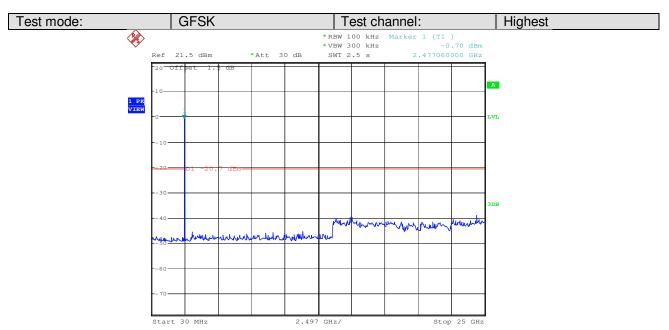


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Report No.: SZEMO11040202401

Page: 30 of 46



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Report No.: SZEMO11040202401

Page: 31 of 46

5.9 Pseudorandom Frequency Hopping Sequence

Test Requirement: FCC Part15 C Section 15.247 (a)(1) requirement:

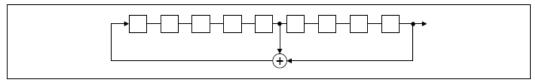
Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

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

EUT Pseudorandom Frequency Hopping Sequence

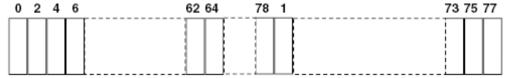
The pseudorandom sequence may be generated in a nine-stage shift register whose 5th and 9th stage outputs are added in a modulo-two addition stage. And the result is fed back to the input of the first stage. The sequence begins with the first ONE of 9 consecutive ONEs; i.e. the shift register is initialized with nine ones.

- Number of shift register stages: 9
- Length of pseudo-random sequence: 29 -1 = 511 bits
- Longest sequence of zeros: 8 (non-inverted signal)



Linear Feedback Shift Register for Generation of the PRBS sequence

An example of Pseudorandom Frequency Hopping Sequence as follow:



Each frequency used equally on the average by each transmitter.

The system receivers have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shift frequencies in synchronization with the transmitted signals.



Report No.: SZEMO11040202401

Page: 32 of 46

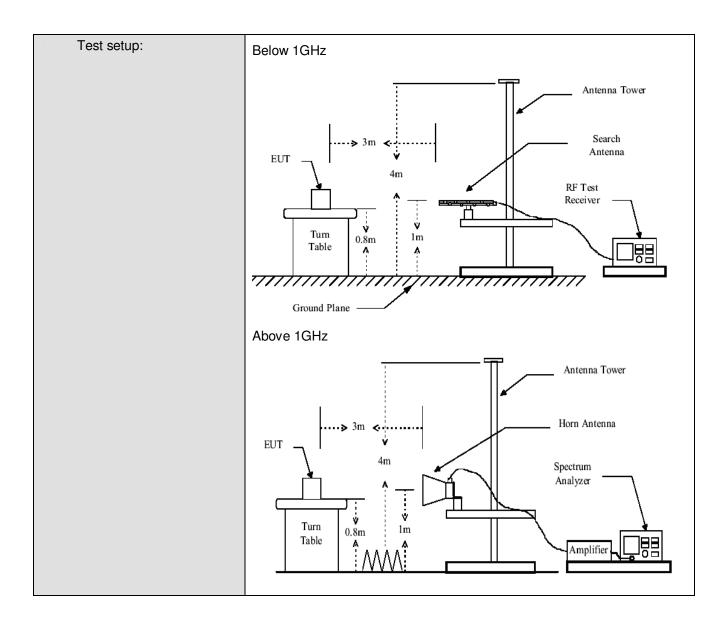
5.10 Radiated Emission

Test Requirement:	FCC Part15 C Section 15.209 and 15.205						
Test Method:	ANSI C63.10: 2009						
Test Frequency Range:	30MHz to 25GHz						
Test site:	Measurement D	istance: 3m (Semi-Anecho	ic Chambe	r)		
Receiver setup:							
	Frequency Detector		RBW	VBW	Remark		
	30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak Value Peak Value		
	Above 1GHz	Peak Peak	1MHz 1MHz	3MHz 10Hz	Average Value		
Limit:		roun	1141112	10112	7 trolago valao		
	Freque	ncy	Limit (dBuV	/m @3m)	Remark		
	30MHz-8		40.0		Quasi-peak Value		
	88MHz-21		43.		Quasi-peak Value		
	216MHz-9		46.0		Quasi-peak Value		
	960MHz-	1GHz	54.0		Quasi-peak Value		
	Above 1	GHz	54.0 74.0		Average Value Peak Value		
Test Procedure:	a. The EUT wa	as placed on t			0.8 meters above		
	 the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation. b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. 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 from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasipeak or average method as specified and then reported in a data sheet. g. The radiation measurements are performed in X, Y, Z axis positioning. 						
Test Instruments:	Only the worst case is shown in the report. Refer to section 4.8 for details						
Test mode:				ransmitting	mode.		
rost mode.	Normal operation mode and non-hopping transmitting mode. pre-scan was performed on the EUT on above modes, and then found the worst case mode is normal operation mode. Only the worst case data was displayed.						
Test results:	Pass						



Report No.: SZEMO11040202401

Page: 33 of 46



Note:

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor



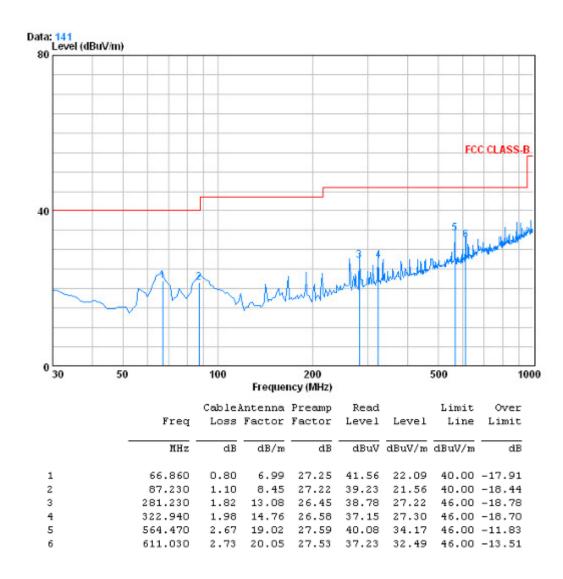


Report No.: SZEMO11040202401

Page: 34 of 46

5.10.1 Radiated emission below 1GHz

Horizontal:



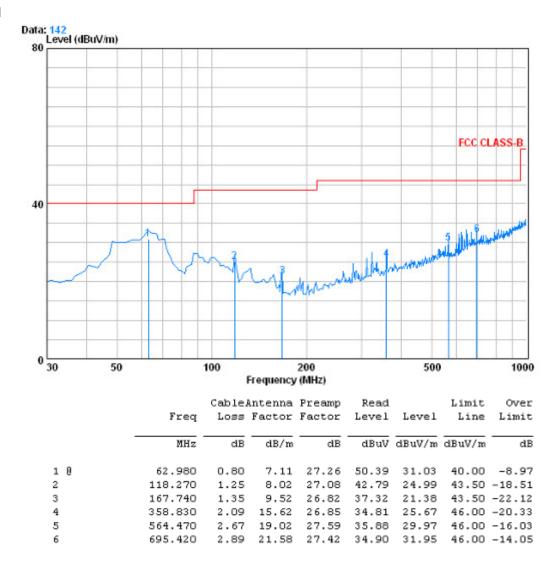
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Report No.: SZEMO11040202401

Page: 35 of 46

Vertical



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Report No.: SZEMO11040202401

Page: 36 of 46

5.10.2 Transmitter emission above 1GHz

Test mode:		GFSK	Test	Test channel:		Lowest Remark:		Peak
Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4803.88	7.44	34.70	41.63	55.30	55.81	74.00	-18.19	Vertical
5829.25	7.90	35.42	41.07	53.13	55.38	74.00	-18.62	Vertical
6299.25	8.08	36.06	40.66	51.98	55.46	74.00	-18.54	Vertical
7509.5	9.10	36.00	39.61	51.64	57.13	74.00	-16.87	Vertical
8026.5	9.34	36.01	39.16	51.37	57.56	74.00	-16.44	Vertical
9483.5	9.66	37.18	37.91	49.44	58.37	74.00	-15.63	Vertical
4803.95	7.44	34.70	41.63	60.21	60.72	74.00	-13.28	Horizontal
6064.25	8.00	35.78	40.86	50.07	52.99	74.00	-21.01	Horizontal
7415.5	8.99	35.97	39.69	49.52	54.79	74.00	-19.21	Horizontal
8508.25	9.48	36.21	38.75	47.33	54.27	74.00	-19.73	Horizontal
9589.25	9.67	37.29	37.81	45.99	55.14	74.00	-18.86	Horizontal
10435.25	10.16	38.22	37.63	45.74	56.49	74.00	-17.51	Horizontal

Test mode:		GFSK	Test	channel:	Lowest	Rem	ark:	Average
Frequency (MHz)	Cable loss (dB)	Antenna factors (dB/m)	Preamp factor (dB)	Reading Level (dBµV)	Emission Level (dBµV/m)	Limit (dBμV/m)	Over limit	polarization
4803.88	7.44	34.70	41.63	44.70	45.21	54.00	-8.79	Vertical
5829.25	7.90	35.42	41.07	41.60	43.85	54.00	-10.15	Vertical
6299.25	8.08	36.06	40.66	40.37	43.85	54.00	-10.15	Vertical
7509.5	9.10	36.00	39.61	40.02	45.51	54.00	-8.49	Vertical
8026.5	9.34	36.01	39.16	38.41	44.60	54.00	-9.40	Vertical
9483.5	9.66	37.18	37.91	36.20	45.13	54.00	-8.87	Vertical
4803.95	7.44	34.70	41.63	43.63	44.14	54.00	-9.86	Horizontal
6064.25	8.00	35.78	40.86	38.26	41.18	54.00	-12.82	Horizontal
7415.5	8.99	35.97	39.69	36.64	41.91	54.00	-12.09	Horizontal
8508.25	9.48	36.21	38.75	34.27	41.21	54.00	-12.79	Horizontal
9589.25	9.67	37.29	37.81	32.82	41.97	54.00	-12.03	Horizontal
10435.25	10.16	38.22	37.63	33.16	43.91	54.00	-10.09	Horizontal



Report No.: SZEMO11040202401 Page: 37 of 46

Test mode:		GFSK	Tes	t channel:	Middle	Rem	Remark: Pe	
Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4266.500	6.79	34.55	41.23	52.08	52.19	74.00	-21.81	Vertical
4877.500	7.48	34.59	41.68	55.13	55.52	74.00	-18.48	Vertical
6487.250	8.14	36.28	40.50	51.81	55.73	74.00	-18.27	Vertical
7521.250	9.12	36.00	39.61	50.96	56.47	74.00	-17.53	Vertical
9201.500	9.64	36.83	38.14	48.93	57.26	74.00	-16.74	Vertical
9859.500	9.79	37.56	37.58	48.94	58.71	74.00	-15.29	Vertical
4882.000	7.48	34.59	41.68	61.22	61.61	74.00	-12.39	Horizontal
6005.500	7.98	35.70	40.92	52.26	55.02	74.00	-18.98	Horizontal
7039.500	8.52	35.81	40.02	51.50	55.81	74.00	-18.19	Horizontal
8966.500	9.62	36.57	38.36	50.03	57.86	74.00	-16.14	Horizontal
9777.250	9.75	37.48	37.65	49.01	58.59	74.00	-15.41	Horizontal
10999.250	10.56	38.50	37.86	48.56	59.76	74.00	-14.24	Horizontal

Test mode:		GFSK	Tes	t channel:	Middle	Rem	nark:	Average
Frequency (MHz)	Cable loss (dB)	Antenna factors (dB/m)	Preamp factor (dB)	Reading Level (dBµV)	Emission Level (dBµV/m)	Limit (dBμV/m)	Over limit	polarization
4266.500	6.79	34.55	41.23	40.85	40.96	54.00	-13.04	Vertical
4877.500	7.48	34.59	41.68	43.60	43.99	54.00	-10.01	Vertical
6487.250	8.14	36.28	40.50	39.55	43.47	54.00	-10.53	Vertical
7521.250	9.12	36.00	39.61	37.71	43.22	54.00	-10.78	Vertical
9201.500	9.64	36.83	38.14	36.25	44.58	54.00	-9.42	Vertical
9859.500	9.79	37.56	37.58	35.79	45.56	54.00	-8.44	Vertical
4882.000	7.48	34.59	41.68	43.08	43.47	54.00	-10.53	Horizontal
6005.500	7.98	35.70	40.92	41.31	44.07	54.00	-9.93	Horizontal
7039.500	8.52	35.81	40.02	38.46	42.77	54.00	-11.23	Horizontal
8966.500	9.62	36.57	38.36	37.11	44.94	54.00	-9.06	Horizontal
9777.250	9.75	37.48	37.65	34.67	44.25	54.00	-9.75	Horizontal
10999.250	10.56	38.50	37.86	35.94	47.14	54.00	-6.86	Horizontal



Report No.: SZEMO11040202401

Page: 38 of 46

Test mode:		GFSK	Tes	t channel:	Highest	Rem	Remark: Peal	
Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4325.250	6.85	34.73	41.28	51.29	51.59	74.00	-22.41	Vertical
4936.250	7.51	34.48	41.72	53.79	54.06	74.00	-19.94	Vertical
6334.500	8.09	36.10	40.63	51.94	55.50	74.00	-18.50	Vertical
7427.250	9.01	35.97	39.69	52.22	57.51	74.00	-16.49	Vertical
8931.250	9.61	36.55	38.39	50.30	58.07	74.00	-15.93	Vertical
10611.500	10.29	38.34	37.70	48.61	59.54	74.00	-14.46	Vertical
4454.500	7.01	35.06	41.37	52.63	53.33	74.00	-20.67	Horizontal
4936.250	7.51	34.48	41.72	55.17	55.44	74.00	-18.56	Horizontal
6487.250	8.14	36.28	40.50	52.15	56.07	74.00	-17.93	Horizontal
7544.750	9.14	36.00	39.59	51.20	56.75	74.00	-17.25	Horizontal
8402.500	9.45	36.16	38.83	50.34	57.12	74.00	-16.88	Horizontal
9354.250	9.65	37.01	38.01	49.19	57.84	74.00	-16.16	Horizontal

Test mode:		GFSK	Test	t channel:	Highest	Remark:		Average
Frequency (MHz)	Cable loss (dB)	Antenna factors (dB/m)	Preamp factor (dB)	Reading Level (dBµV)	Emission Level (dBµV/m)	Limit (dBμV/m)	Over limit	polarization
4325.250	6.85	34.73	41.28	38.17	38.47	54.00	-15.53	Vertical
4936.250	7.51	34.48	41.72	42.81	43.08	54.00	-10.92	Vertical
6334.500	8.09	36.10	40.63	39.52	43.08	54.00	-10.92	Vertical
7427.250	9.01	35.97	39.69	40.77	46.06	54.00	-7.94	Vertical
8931.250	9.61	36.55	38.39	37.14	44.91	54.00	-9.09	Vertical
10611.500	10.29	38.34	37.70	35.28	46.21	54.00	-7.79	Vertical
4454.500	7.01	35.06	41.37	43.59	44.29	54.00	-9.71	Horizontal
4936.250	7.51	34.48	41.72	42.37	42.64	54.00	-11.36	Horizontal
6487.250	8.14	36.28	40.50	40.52	44.44	54.00	-9.56	Horizontal
7544.750	9.14	36.00	39.59	38.49	44.04	54.00	-9.96	Horizontal
8402.500	9.45	36.16	38.83	37.50	44.28	54.00	-9.72	Horizontal
9354.250	9.65	37.01	38.01	38.61	47.26	54.00	-6.74	Horizontal

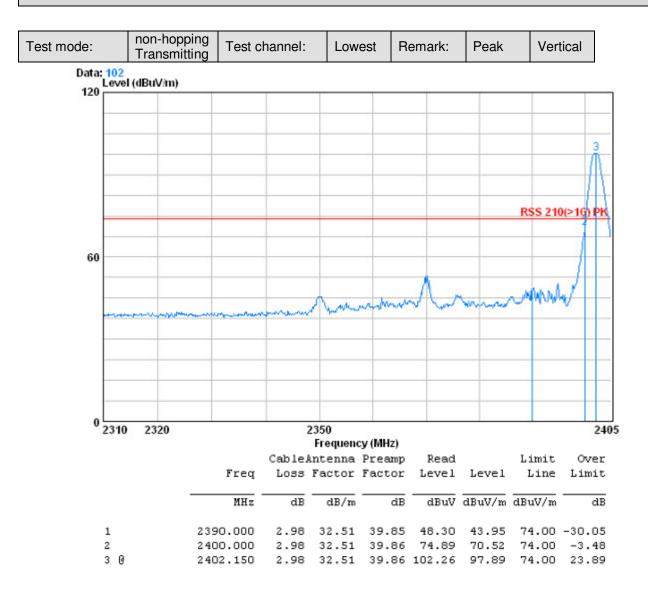
Remark: The disturbance above 11GHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.



Report No.: SZEMO11040202401

Page: 39 of 46

5.10.3 Band edge (Radiated Emission)

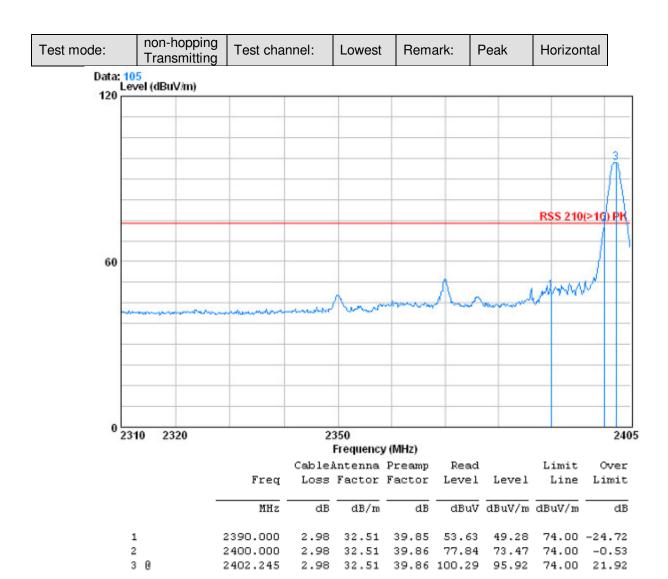


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Report No.: SZEMO11040202401

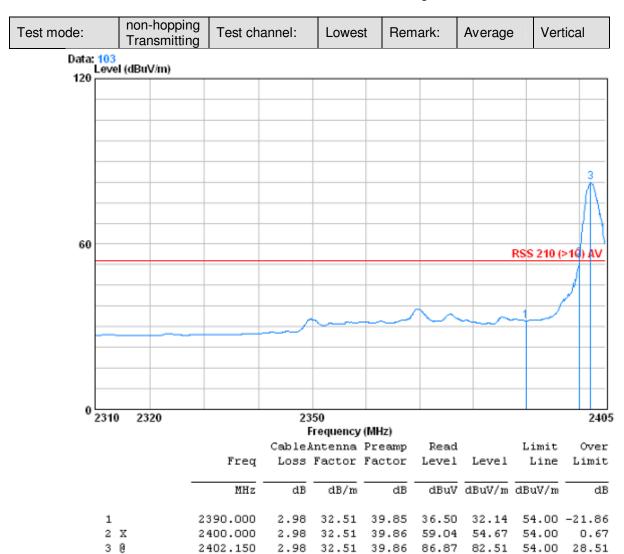
Page: 40 of 46





Report No.: SZEMO11040202401

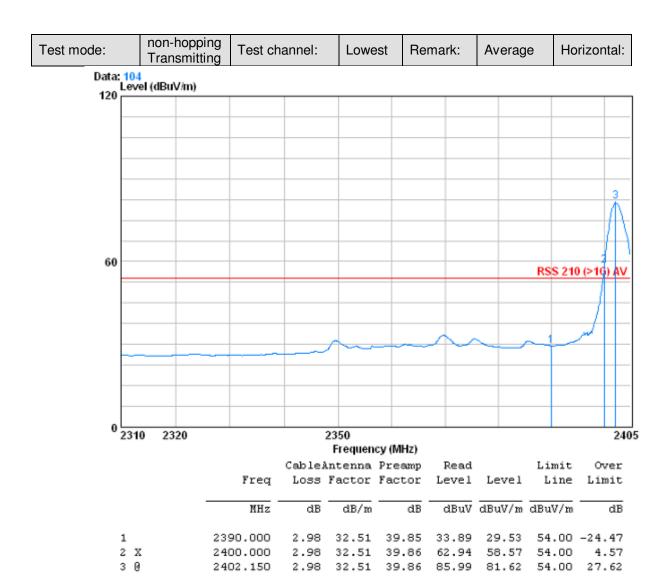
Page: 41 of 46





Report No.: SZEMO11040202401

Page: 42 of 46

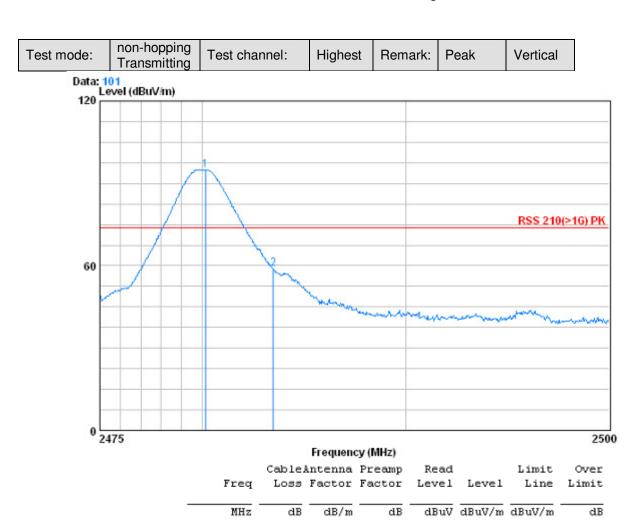


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Report No.: SZEMO11040202401

Page: 43 of 46



32.67

32.67

39.92

39.92

3.03

3.03

2480.175

2483.500

1 X

99.15

62.95

94.93

58.73

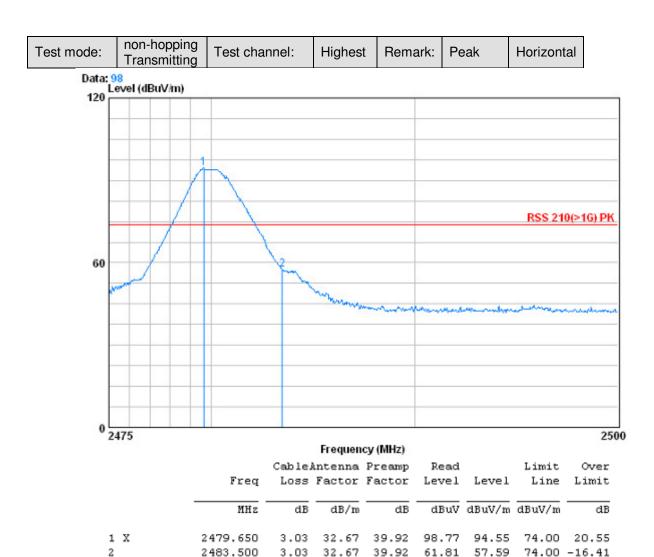
74.00 20.93

74.00 -15.27



Report No.: SZEMO11040202401

Page: 44 of 46

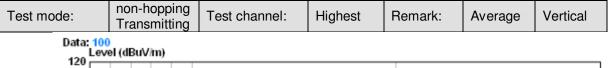


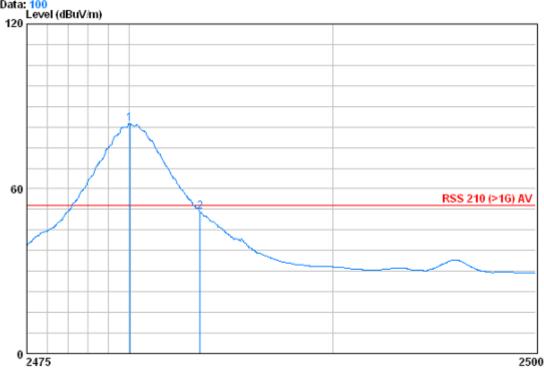
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Report No.: SZEMO11040202401

Page: 45 of 46





Frequency (MHz)										
	Freq		intenna Factor	-	Read Level	Limit Level Line		Over Limit		
	МНz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1 @ 2	2480.050 2483.500			39.92 39.92						



1 0

2480.050

2483.500

3.03

3.03

32.67

32.67

39.92

39.92

87.21

55.09

82.99

50.87

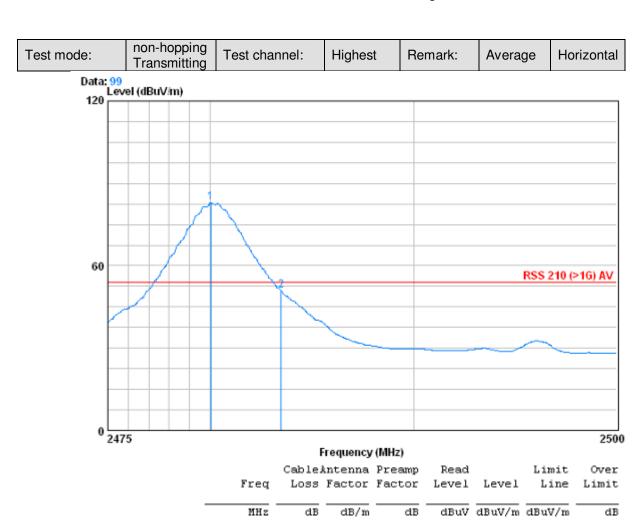
54.00

28.99

SGS-CSTC Standards Technical Services Ltd.

Report No.: SZEMO11040202401

Page: 46 of 46



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