

0659



# **FCC** Radio Test Report

FCC ID: 2ALZB-D14MED

: BTL-FCCP-1-2011T053 Report No.

Equipment : Gateway

**Model Name** SYS-D14-MED-XXXX-1XX0-CX (X=0-9 ,A-Z ,a-z or blank)

**Brand Name** SECO SECO S.p.A Applicant

: Via Achille Grandi 20, 52100 AREZZO Italy Address

**Radio Function** : Bluetooth

FCC Rule Part(s) : FCC Part15, Subpart C (15.247)

Measurement

: ANSI C63.10-2013

Procedure(s)

Date of Receipt : 2020/11/18

: 2020/11/18 ~ 2020/12/16 Date of Test

**Issued Date** : 2021/2/1

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

Prepared by

Approved by

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Project No.: 2011T053 Page 1 of 43 Report Version: R00





#### **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.

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

BTL is not responsible for the sampling stage, so the results only apply to the sample as received.

The information, data and test plan are provided by manufacturer which may affect the validity of results, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements of applied standards and in all the possible configurations as representative of its intended use.

#### 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.

Please note that the measurement uncertainty is provided for informational purpose only and are not use in determining the Pass/Fail results.

Project No.: 2011T053 Page 2 of 43 Report Version: R00





# **CONTENTS**

REPORT	ISSUED I	HISTORY	4
1	SUMMAF	RY OF TEST RESULTS	5
1.1	TEST	FACILITY	6
1.2	MEAS	UREMENT UNCERTAINTY	6
1.3	TEST	ENVIRONMENT CONDITIONS	6
2	GENERA	L INFORMATION	7
2.1	DESC	RIPTION OF EUT	7
2.2	TEST	MODES	9
2.3	BLOCI	K DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	10
2.4	SUPP	ORT UNITS	10
3	AC POW	ER LINE CONDUCTED EMISSIONS TEST	11
3.1	LIMIT		11
3.2	TEST	PROCEDURE	11
3.3	DEVIA	TION FROM TEST STANDARD	11
3.4	TEST	SETUP	12
3.5	TEST	RESULT	12
4	RADIATE	D EMISSIONS TEST	13
4.1	LIMIT		13
4.2	TEST	PROCEDURE	14
4.3	DEVIA	TION FROM TEST STANDARD	14
4.4	TEST	SETUP	15
4.5	EUT O	PERATING CONDITIONS	16
4.6	TEST	RESULT – 30 MHZ TO 1 GHZ	16
4.7	TEST	RESULT – ABOVE 1 GHZ	16
5	LIST OF	MEASURING EQUIPMENTS	17
6	<b>EUT TES</b>	T PHOTO	18
7	EUT PHO	DTOS	18
APPEND	IX A	AC POWER LINE CONDUCTED EMISSIONS	19
APPEND	IX B	RADIATED EMISSIONS - 30 MHZ TO 1 GHZ	24
APPEND	IX C	RADIATED EMISSIONS - ABOVE 1 GHZ	27



# **REPORT ISSUED HISTORY**

Report Version	Description	Issued Date
R00	Original Issue.	2021/2/1

Project No.: 2011T053 Page 4 of 43 Report Version: R00



# 1 SUMMARY OF TEST RESULTS

Test procedures according to the technical standards.

FCC Part 15, Subpart C (15.247)							
Standard(s) Section Description Test Result Judgement Remark							
15.207	AC Power Line Conducted Emissions	APPENDIX A	Pass				
15.205 15.209 15.247(d)	Radiated Emissions	APPENDIX B APPENDIX C	Pass				

#### NOTE:

- (1) "N/A" denotes test is not applicable in this Test Report.
- (2) The report format version is TP.1.1.1.
- (3) The Equipment under test (EUT) is the Gateway, FCC ID: 2ALZB-D14MED. The test data contained in this report pertains only to the emission due to the EUT's transmitter. For other test data can be refer report No.: 170524-01.TR05 (This FCC ID is change ID based on Intel Corporation, the original application information follow as model: 9260NGW, FCC ID: PD99260NG, approved on 07/24/2017)
- (4) After spot check, this revision does not change original radio parameters.

Project No.: 2011T053 Page 5 of 43 Report Version: R00



Report No.: BTL-FCCP-1-2011T053

#### 1.1 TEST FACILITY

The test facilities used to collect the test data in this report:

No. 68-1, Ln. 169, Sec. 2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan The test sites and facilities are covered under FCC RN: 674415 and DN: TW0659.

□ CB08 □ CB11 □ CB15 □ CB16

#### 1.2 MEASUREMENT UNCERTAINTY

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  $\mathbf{k} = \mathbf{2}$ , providing a level of confidence of approximately 95 %. The measurement instrumentation uncertainty considerations contained in CISPR 16-4-2. The BTL measurement uncertainty is less than the CISPR 16-4-2  $\mathbf{U}_{cisor}$  requirement.

A. AC power line conducted emissions test:

Test Site	Method	Measurement Frequency Range	U (dB)
C05	CISPR	150 kHz ~ 30MHz	3.44

#### B. Radiated emissions test:

Test Site	Measurement Frequency Range	U,(dB)
	0.03 GHz ~ 0.2 GHz	4.17
	0.2 GHz ~ 1 GHz	4.72
CB15	1 GHz ~ 6 GHz	5.21
CBIS	6 GHz ~ 18 GHz	5.51
	18 GHz ~ 26 GHz	3.69
	26 GHz ~ 40 GHz	4.23

#### NOTE:

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

#### 1.3 TEST ENVIRONMENT CONDITIONS

Test Item	Environment Condition	Test Voltage	Tested by
AC Power Line Conducted Emissions	23 °C, 65 %	AC 120V	Nero Hsieh
Radiated emissions below 1 GHz	Refer to data	AC 120V	Jay Kao
Radiated emissions above 1 GHz	Refer to data	AC 120V	Jay Kao



# **2 GENERAL INFORMATION**

# 2.1 DESCRIPTION OF EUT

Equipment Gateway						
SYS-D14-MED-XXXX-1XX0-CX (X=0-9 ,A-Z ,a-z or blank)						
SECO						
Differ in CPU and market.						
N	Nodel Name	CPU				
SYS-D14-MED-XXXX-1	SYS-D14-MED-3216-1W00-C1	E3930, 1.8GHz				
XX0-CX	SYS-D14-MED-4216-1W00-C1	E3940, 1.8GHz				
	SYS-D14-MED-5326-1W00-C1	E3950, 2.0GHz				
DC voltage supplied from	External Power Supply.					
I/P: 100-240V~, 2.0-1.0A, 50-60Hz						
O/P: 18.0Vdc 3.78A 69.0W						
1 * Adapter: EDAC / EM10	D681V					
Intel / 9260NGW						
2400 MHz ~ 2483.5 MHz						
2402 MHz ~ 2480 MHz						
SYS-D14-MED-5326-1W00-C1						
Sample Status Engineering Sample						
N/A						
	DC voltage supplied from I/P: 100-240V~, 2.0-1.0A O/P: 18.0Vdc 3.78A 69.0 1 * Adapter: EDAC / EM10 Intel / 9260NGW 2400 MHz ~ 2483.5 MHz 2402 MHz ~ 2480 MHz SYS-D14-MED-5326-1W0 Engineering Sample	SYS-D14-MED-XXXX-1XX0-CX (X=0-9 ,A-Z ,a-z or blank)   SECO				

# NOTE:

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

# (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		

Project No.: 2011T053 Page 7 of 43 Report Version: R00





(3) Table for Filed Antenna:

Antenna	Manufacture	Part number	Туре	Connector	Frequency Range (MHz)	Gain (dBi)
			Dipole		2400-2500	1
Main	Pulse Electronics	W1043		RP SMA plug	5150-5350	3
iviaiii					5470-5725	2.5
					5725-5850	1
					2400-2500	1
Aux	Pulse Electronics	\\\1043	Dipole	RP SMA plug	5150-5350	3
		Electronics W1043			5470-5725	2.5
					5725-5850	1

Project No.: 2011T053 Page 8 of 43 Report Version: R00



Report No.: BTL-FCCP-1-2011T053

#### 2.2 TEST MODES

Test Items	Test mode	Channel	Note
AC power line conducted emissions	Normal/Idle	-	-
Transmitter Radiated Emissions (below 1GHz)	1 Mbps	78	-
Transmitter Radiated Emissions	1/3 Mbps	00/78	Bandedge
(above 1GHz)	1/3 Mbps	00/39/78	Harmonic

#### NOTE:

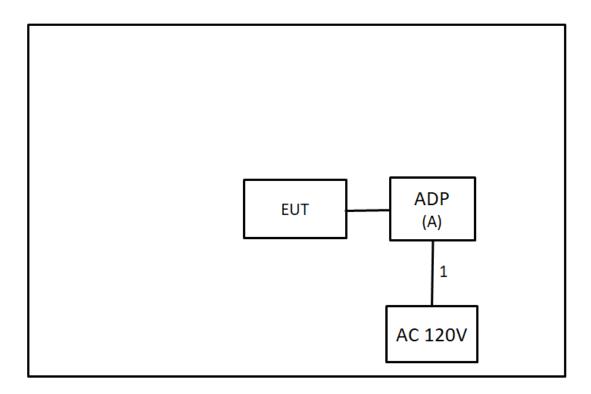
- (1) The Radiated emissions test was verified based on the worst conducted power and Bandwidth test results reported in the original report.
- (2) For radiated emission band edge test, both Vertical and Horizontal are evaluated, but only the worst case (Horizontal) is recorded.
- (3) All X, Y and Z axes are evaluated, but only the worst case (X axis) is recorded.
- (4) There were no emissions found below 30 MHz within 20 dB of the limit.

Project No.: 2011T053 Page 9 of 43 Report Version: R00



# 2.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Equipment letters and Cable numbers refer to item numbers described in the tables of clause 2.4.



# 2.4 SUPPORT UNITS

Item	Equipment	Brand	Model No.	Series No.	Remarks
Α	Adapter	EDAC	EM10681V	N/A	Supplied by test requester

Item	Shielded	Ferrite Core	Length	Cable Type	Remarks
1	N/A	N/A	1.5m	Power cord	Furnished by test lab.

Project No.: 2011T053 Page 10 of 43 Report Version: R00



Report No.: BTL-FCCP-1-2011T053

#### 3 AC POWER LINE CONDUCTED EMISSIONS TEST

#### 3.1 LIMIT

Frequency	Limit (dBµV)		
(MHz)	Quasi-peak	Average	
0.15 - 0.5	66 - 56 *	56 - 46 *	
0.50 - 5.0	56	46	
5.0 - 30.0	60	50	

#### NOTE:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " \* " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.
- (3) 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

Calculation example:

Reading Level	Correct Factor			Measurement Value
38.22	+	3.45	=	41.67

Measurement Value		Limit Value		Margin Level
41.67	ı	60	=	-18.33

The following table is the setting of the receiver.

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

#### 3.2 TEST PROCEDURE

- a. The EUT was placed 0.8 m above the horizontal ground plane with the EUT being connected to the power mains through a line impedance stabilization network (LISN).
  - All other support equipment were powered from an additional LISN(s).
  - The LISN provides 50 Ohm/50uH of 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 to keep the cable above 40 cm.
- c. Excess I/O cables that are not connected to a peripheral shall be bundled in the center.
  - The end of the cable will be terminated, using the correct terminating impedance.
  - The overall length shall not exceed 1 m.
- d. The LISN is spaced at least 80 cm from the nearest part of the EUT chassis.
- e. For the actual test configuration, please refer to the related Item EUT TEST PHOTO.

# NOTE:

- In the results, each reading is marked as Peak, QP or AVG per the detector used. BW=9 kHz (6 dB Bandwidth)
- (2) All readings are Peak unless otherwise stated QP or AVG in column of Note. Both the QP and the AVG readings must be less than the limit for compliance.

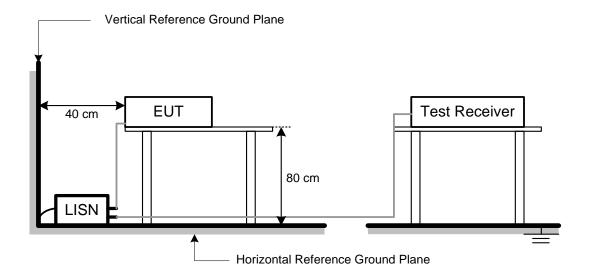
#### 3.3 DEVIATION FROM TEST STANDARD

No deviation.

Project No.: 2011T053 Page 11 of 43 Report Version: R00



# 3.4 TEST SETUP



# 3.5 TEST RESULT

Please refer to the APPENDIX A.



Report No.: BTL-FCCP-1-2011T053

#### 4 RADIATED EMISSIONS TEST

#### **4.1 LIMIT**

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

LIMITS OF RADIATED EMISSIONS MEASUREMENT (9 kHz to 1000 MHz)

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

LIMITS OF RADIATED EMISSIONS MEASUREMENT (Above 1000 MHz)

Frequency (MHz)	Radiated (dBu	Measurement Distance	
(IVIIIZ)	Peak	Average	(meters)
Above 1000	74	54	3

#### NOTE:

- (1) The limit for radiated test was performed according to FCC Part 15, Subpart C.
- (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

Calculation example:

Reading Level		Correct Factor		Measurement Value	
19.11	+	2.11	=	21.22	

Measurement Value		Limit Value		Margin Level
21.22	-	54	=	-32.78

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RBW / VBW	1MHz / 3MHz for Peak,
(Emission in restricted band)	1MHz / 1/T for Average

Spectrum 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

Project No.: 2011T053 Page 13 of 43 Report Version: R00



Report No.: BTL-FCCP-1-2011T053

#### 4.2 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 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 0.8 m or 1.5 m, 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)

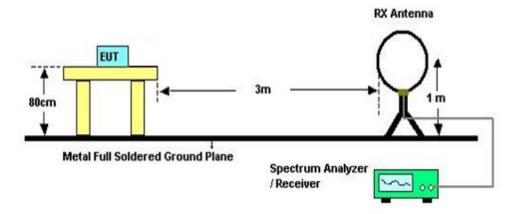
<ul><li>(above 1GHz)</li><li>i. For the actual test configuration, please refer to the related Item – EUT TEST PHOTO.</li></ul>
4.3 DEVIATION FROM TEST STANDARD
No deviation.

Project No.: 2011T053 Page 14 of 43 Report Version: R00

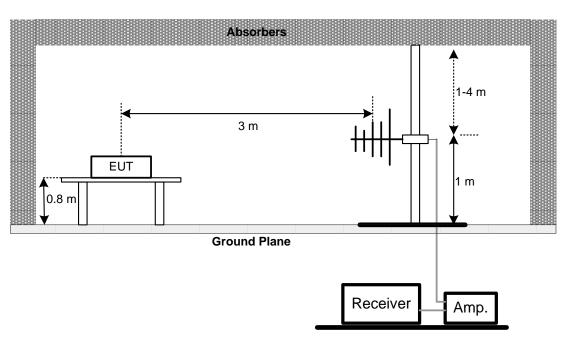


# 4.4 TEST SETUP

#### 9 kHz to 30 MHz

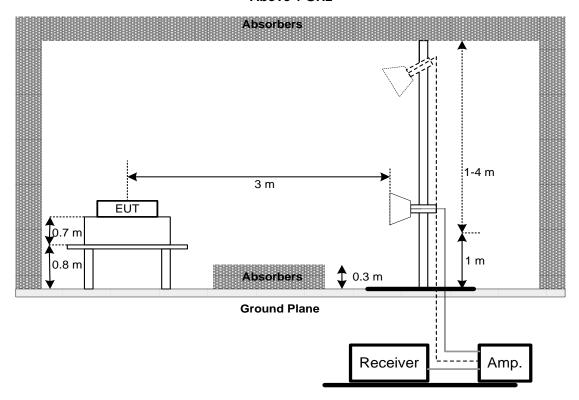


#### 30 MHz to 1 GHz





#### **Above 1 GHz**



# 4.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

#### 4.6 TEST RESULT - 30 MHZ TO 1 GHZ

Please refer to the APPENDIX B.

#### 4.7 TEST RESULT - ABOVE 1 GHZ

Please refer to the APPENDIX C.

#### NOTE:

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

Project No.: 2011T053 Page 16 of 43 Report Version: R00



# 5 LIST OF MEASURING EQUIPMENTS

	AC Power Line Conducted Emissions							
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until		
1	TWO-LINE V-NETWORK	R&S	ENV216	101050	2020/6/11	2021/6/10		
2	Test Cable	EMCI	EMC400-BM-BM- 5000	170501	2020/6/8	2021/6/7		
3	EMI Test Receiver	R&S	ESR7	101433	2019/12/13	2020/12/12		
4	Measurement Software	EZ	EZ_EMC (Version NB-03A1-01)	N/A	N/A	N/A		

	Radiated Emissions								
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until			
1	Preamplifier	EMCI	EMC02325B	980217	2020/4/10	2021/4/9			
2	Preamplifier	EMCI	EMC012645B	980267	2020/4/10	2021/4/9			
3	Preamplifier	EMCI	EMC184045SE	980512	2020/6/1	2021/5/31			
4	Test Cable	EMCI	EMC-SM-SM-100 0	180809	2020/4/10	2021/4/9			
5	Test Cable	EMCI	EMC104-SM-SM- 3000	151205	2020/4/10	2021/4/9			
6	Test Cable	EMCI	EMC-SM-SM-700 0	180408	2020/4/10	2021/4/9			
7	MXE EMI Receiver	Agilent	N9038A	MY554200087	2020/6/10	2021/6/9			
8	Signal Analyzer	Agilent	N9010A	MY56480554	2020/8/25	2021/8/24			
9	Horn Ant	SCHWARZBECK	BBHA 9120D	9120D-1342	2020/6/12	2021/6/11			
10	Horn Ant	Schwarzbeck	BBHA 9170	BBHA 9170340	2020/7/9	2021/7/8			
11	Trilog-Broadband Antenna	Schwarzbeck VULB 9168		VULB 9168-352	2020/7/24	2021/7/23			
12	5dB Attenuator	EMCI	EMCI-N-6-05	AT-N0625	2020/7/24	2021/7/23			
13	Measurement Software EZ		EZ_EMC (Version NB-03A1-01)	N/A	N/A	N/A			

Remark: "N/A" denotes no model name, no serial no. or no calibration specified. All calibration period of equipment list is one year.

Project No.: 2011T053 Page 17 of 43 Report Version: R00



Report No.: BTL-FCCP-1-2011T053

6 EUT TEST PHOTO
Please refer to document Appendix No.: TP-2011T053-FCCP-1 (APPENDIX-TEST PHOTOS).
7 EUT PHOTOS
Please refer to document Appendix No.: EP-2011T053-1 (APPENDIX-EUT PHOTOS).

Project No.: 2011T053 Page 18 of 43 Report Version: R00

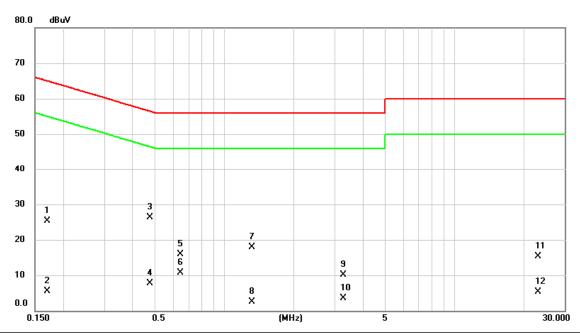


APPENDIX A	AC POWER LINE CONDUCTED EMISSIONS

Project No.: 2011T053 Page 19 of 43 Report Version: R00



Test Mode	Normal	Tested Date	2020/11/20
Test Frequenc	-	Phase	Line

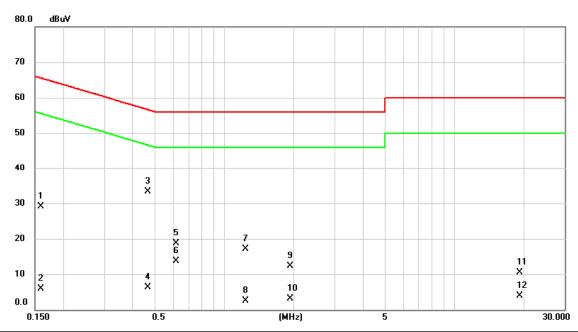


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBu∨	dB	dBu∨	dBu∨	dB	Detector	Comment
1		0.1703	15.59	9.68	25.27	64.95	-39.68	QP	
2		0.1703	-4.27	9.68	5.41	54.95	-49.54	AVG	
3	*	0.4762	16.65	9.68	26.33	56.41	-30.08	QP	
4		0.4762	-2.04	9.68	7.64	46.41	-38.77	AVG	
5		0.6472	6.14	9.68	15.82	56.00	-40.18	QP	
6		0.6472	1.02	9.68	10.70	46.00	-35.30	AVG	
7		1.3133	8.21	9.70	17.91	56.00	-38.09	QP	
8		1.3133	-7.23	9.70	2.47	46.00	-43.53	AVG	
9		3.2663	0.35	9.77	10.12	56.00	-45.88	QP	
10		3.2663	-6.31	9.77	3.46	46.00	-42.54	AVG	
11		23.0033	5.43	9.95	15.38	60.00	-44.62	QP	
12		23.0033	-4.62	9.95	5.33	50.00	-44.67	AVG	

- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.



Test Mode	Normal	Tested Date	2020/11/20
Test Frequency	-	Phase	Neutral

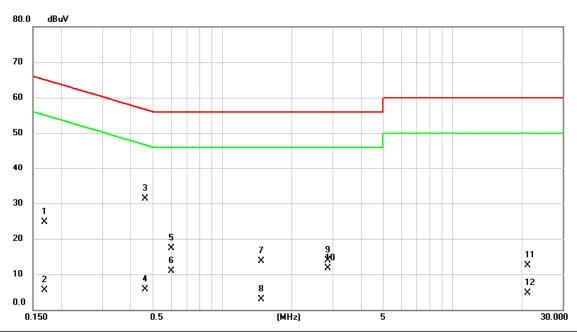


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBu∨	dB	dBu∨	dBu∨	dB	Detector	Comment
1		0.1590	19.51	9.68	29.19	65.52	-36.33	QР	
2		0.1590	-3.86	9.68	5.82	55.52	-49.70	AVG	
3	*	0.4672	23.55	9.68	33.23	56.56	-23.33	QP	
4		0.4672	-3.29	9.68	6.39	46.56	-40.17	AVG	
5		0.6202	9.08	9.68	18.76	56.00	-37.24	QP	
6		0.6202	4.03	9.68	13.71	46.00	-32.29	AVG	
7		1.2368	7.45	9.70	17.15	56.00	-38.85	QР	
8		1.2368	-7.22	9.70	2.48	46.00	-43.52	AVG	
9		1.9320	2.53	9.74	12.27	56.00	-43.73	QP	
10		1.9320	-6.59	9.74	3.15	46.00	-42.85	AVG	
11		19.2188	0.51	9.96	10.47	60.00	-49.53	QP	
12		19.2188	-5.96	9.96	4.00	50.00	-46.00	AVG	

- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.



I	Test Mode	Idle	Tested Date	2020/11/20
ı	Test Frequency	-	Phase	Line

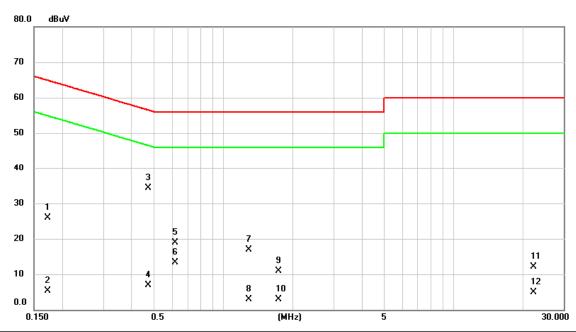


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBu∨	dB	dBu∨	dBu∨	dB	Detector	Comment
1		0.1680	14.95	9.68	24.63	65.06	-40.43	QP	
2		0.1680	-4.18	9.68	5.50	55.06	-49.56	AVG	
3	*	0.4627	21.54	9.68	31.22	56.64	-25.42	QP	
4		0.4627	-3.96	9.68	5.72	46.64	-40.92	AVG	
5		0.6022	7.55	9.68	17.23	56.00	-38.77	QP	
6		0.6022	1.31	9.68	10.99	46.00	-35.01	AVG	
7		1.4708	4.02	9.71	13.73	56.00	-42.27	QР	
8		1.4708	-6.88	9.71	2.83	46.00	-43.17	AVG	
9		2.8568	4.17	9.76	13.93	56.00	-42.07	QP	
10		2.8568	1.95	9.76	11.71	46.00	-34.29	AVG	
11		21.0750	2.47	9.96	12.43	60.00	-47.57	QP	
12		21.0750	-5.24	9.96	4.72	50.00	-45.28	AVG	

- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.



Test Mode	Idle	Tested Date	2020/11/20
Test Frequency	-	Phase	Neutral



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBu∨	dB	dBu∨	dBu∨	dB	Detector	Comment
1		0.1725	16.24	9.68	25.92	64.84	-38.92	QP	
2		0.1725	-4.31	9.68	5.37	54.84	-49.47	AVG	
3	*	0.4717	24.55	9.68	34.23	56.48	-22.25	QP	
4		0.4717	-2.87	9.68	6.81	46.48	-39.67	AVG	
5		0.6202	9.29	9.68	18.97	56.00	-37.03	QP	
6		0.6202	3.69	9.68	13.37	46.00	-32.63	AVG	
7		1.2908	7.24	9.70	16.94	56.00	-39.06	QP	
8		1.2908	-6.84	9.70	2.86	46.00	-43.14	AVG	
9		1.7385	1.22	9.73	10.95	56.00	-45.05	QP	
10		1.7385	-6.86	9.73	2.87	46.00	-43.13	AVG	
11		22.1843	2.18	9.95	12.13	60.00	-47.87	QP	
12		22.1843	-5.08	9.95	4.87	50.00	-45.13	AVG	

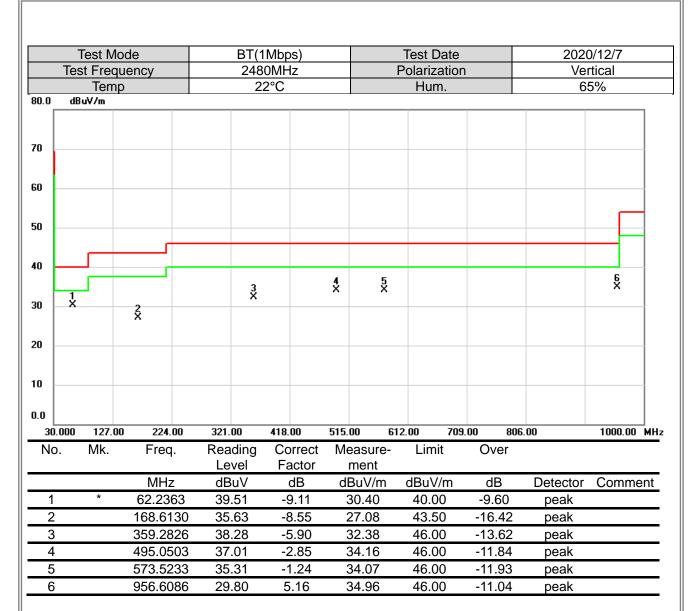
- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.



APPENDIX B	RADIATED EMISSIONS - 30 MHZ TO 1 GHZ

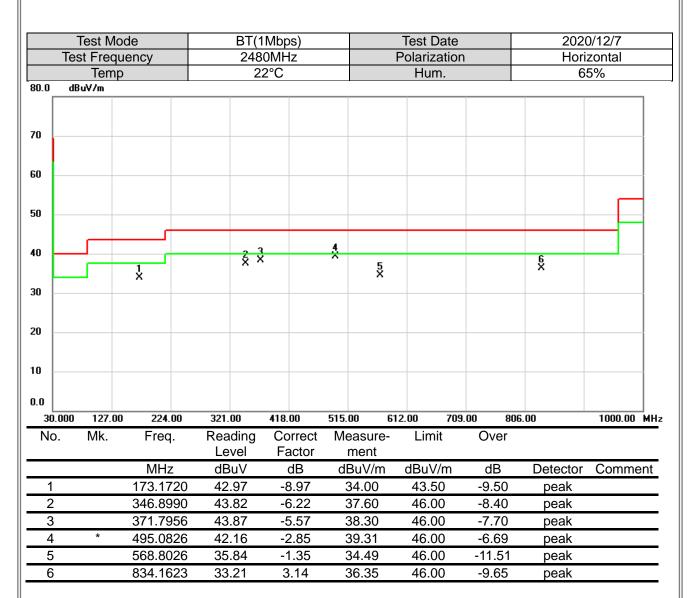
Project No.: 2011T053 Page 24 of 43 Report Version: R00





- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.





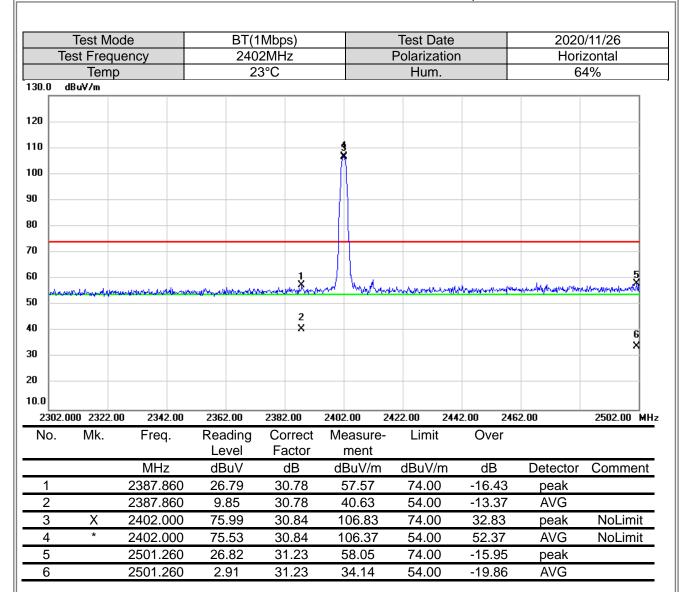
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.



# APPENDIX C RADIATED EMISSIONS - ABOVE 1 GHZ

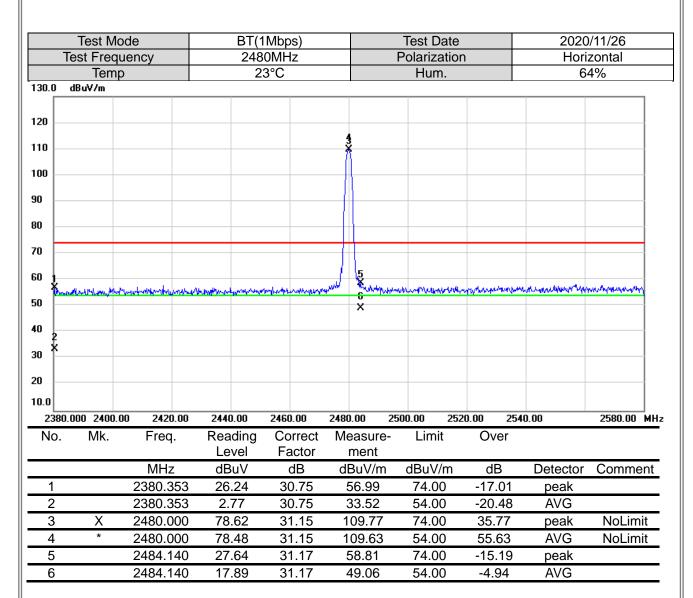
Project No.: 2011T053 Page 27 of 43 Report Version: R00





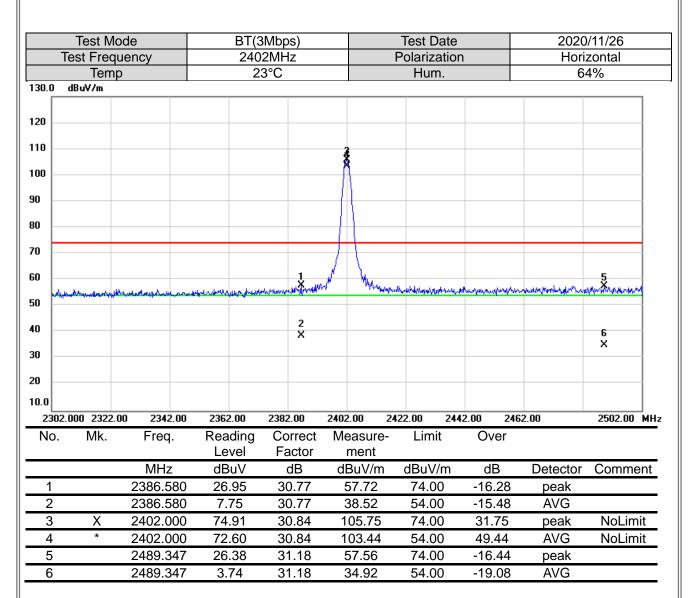
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.





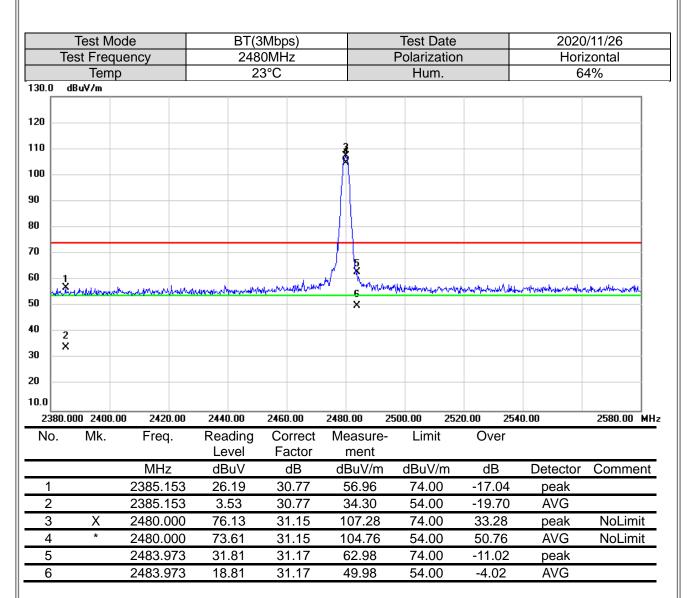
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.





- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.





- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.



	Test Mo			(Mbps		Test Date			/11/26
	Test Freq			2MHz		Polarization			tical
	Tem	ρ	2	3°C	Hum.		6	4%	
120.0	dBuV/m								
110									
100									
90									
80									
70									
60									
50		-							
40		X X							
30		2 X							
20									
10									
0.0									
10	00.000 3550.	00 6100.00	8650.00	11200.00	13750.00 1	16300.00 188	350.00 214	00.00	26500.00 MHz
No	. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4804.000	53.35	-10.03	43.32	74.00	-30.68	peak	
2	*	4804.000	42.39	-10.03	32.36	54.00	-21.64	AVG	

- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.



	Test Mo			1Mbps)		Test Date			/11/26
	Test Freq	uency		2MHz		Polarization	า		zontal
	Tem	р	2	:3°C		Hum.		6-	4%
120.0	dBuV/m								
110									
100									
90									
80									
70									
60 _									
50		1 X							
40									
30		2 X							
20									
10									
0.0									
	0.000 3550.		8650.00	11200.00				00.00	26500.00 MHz
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4804.000		-10.03	43.26	74.00	-30.74	peak	
2	*	4804.000	42.17	-10.03	32.14	54.00	-21.86	AVG	

- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.



	Test Mode Test Frequency Temp		244	1Mbps) 1MHz		Test Date Polarization	n	2020/11/26 Vertical	
120.0	Temp dBuV/m	)	2	3°C		Hum.		6-	4%
120.0	dba47iii								
110									
100									
90 _									
80									
70									
60									
50			X 2						
40			X						
30 -									
20									
10									
0.0									
	0.000 3550.0			11200.00				00.00	26500.00 MHz
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		7323.000		-2.37	51.41	74.00	-22.59	peak	
2	*	7323.000	46.25	-2.37	43.88	54.00	-10.12	AVG	

- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.



	Test Mode Test Frequency			1Mbps) I1MHz		Test Date Polarization	n	2020/11/26 Horizontal	
	Temp			:3°C		Hum.			4%
120.0	dBuV/m								
110									
100									
90									
80									
70									
60			1						
50 -			1 ½ ×						
40									
30									
20									
10									
0.0									
	0.000 3550.0			11200.00				100.00	26500.00 MHz
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		7323.000	59.40	-2.37	57.03	74.00	-16.97	peak	
2	*	7323.000	54.01	-2.37	51.64	54.00	-2.36	AVG	

- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.



	Test Mode Test Frequency			1Mbps) 30MHz		Test Date Polarization	า	2020/11/26 Vertical	
	Temp			:3°C		Hum.		6	4%
120.0	dBuV/m								
110									
100									
90									
80									
70									
60									
50			1 X 2						
40			×						
30 _									
20									
10									
0.0									
	0.000 3550.0			11200.00				00.00	26500.00 MHz
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		7440.000	54.49	-1.83	52.66	74.00	-21.34	peak	_
2	*	7440.000	47.11	-1.83	45.28	54.00	-8.72	AVG	

- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.



	Test Mode Test Frequency			1Mbps) 80MHz		Test Date Polarization	n		)/11/26 zontal
	Tem			23°C		Hum.			4%
120.0	dBuV/m	Υ	-			T I WITH			170
Г									
110									
100									
90									
80									
70									
60			1						
50			X						
40									
30 _									
20									
10									
0.0									
	0.000 3550.			11200.00				00.00	26500.00 MHz
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	· Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		7440.000		-1.83	56.36	74.00	-17.64	peak	
2	*	7440.000	53.72	-1.83	51.89	54.00	-2.11	AVG	

- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.



	Test M			3Mbps)		Test Date			/11/26
	Test Fred			2MHz		Polarizatio	n		rtical
	Tem	р	2	:3°C		Hum.		6-	4%
120.0	dBuV/m								
110									
100									
90									
80									
70									
60									
50		1 X							
40									
30		2 X							
20									
10									
0.0									
	0.000 3550.			11200.00				00.00	26500.00 MHz
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	- Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4804.000		-10.03	44.09	74.00	-29.91	peak	
2	*	4804.000	41.52	-10.03	31.49	54.00	-22.51	AVG	

- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.



	Test M Test Freq			3Mbps) 02MHz		Test Date Polarization			/11/26 zontal
	Tem		2	:3°C		Hum.		6	4%
120.0	dBuV/m								
110									
100									
90									
80									
70									
60									
50		1 X							
40									
30		2 X							
20									
10									
0.0									
	0.000 3550.			11200.00			850.00 21 <b>4</b>	00.00	26500.00 MHz
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4804.000		-10.03	44.78	74.00	-29.22	peak	
2	*	4804.000	41.46	-10.03	31.43	54.00	-22.57	AVG	

- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.



		Mode				BMbps)					Test Dat				)/11/26
		equency				1MHz				F	Polarizati	on			rtical
		mp			2	3°C					Hum.			6	4%
120.0	dBuV/m														
110															
100															
90															
80															
70															
60															
50		1													
40		1 X													
30		2 X													
20															
10															
0.0															
	0.000 355		00.00	8650		11200.0		1375				8850.0		400.00	26500.00 MH:
No.	Mk.	. Fre	q.	Rea Le		Corre Fact			easure ment	<del>)</del> -	Limit	•	Over		
		MH	łz	dB		dB			3uV/m	1	dBuV/m		dB	Detector	Comment
1		4882		53.	89	-9.7	6		4.13		74.00		29.87	peak	
2	*	4882	.000	41.	92	-9.7	6	3	32.16		54.00	-:	21.84	AVG	

- (1) Measurement Value = Reading Level + Correct Factor.
  (2) Margin Level = Measurement Value Limit Value.



	Test Mode	ode		BMbps)		Test Date		2020/11/26		
	Test Frequ			·1MHz		Polarizatio	n		zontal	
	Temp	)	2	3°C		Hum.		6-	4%	
120.0	dBuV/m									
110										
100										
90										
80										
70										
60										
50		1 X								
40										
30		2 X								
20										
10										
0.0										
	0.000 3550.0		8650.00	11200.00				00.00	26500.00 MHz	
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over			
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment	
1		4882.000	53.92	-9.76	44.16	74.00	-29.84	peak		
2	*	4882.000	41.81	-9.76	32.05	54.00	-21.95	AVG		

- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.



	Test Mo			BMbps)		Test Date			/11/26
1	Test Frequ			0MHz		Polarizatio	n		rtical
	Temp		2	3°C		Hum.		6	4%
120.0	dBuV/m								
110									
100									
90									
30									
80 —									
70									
60									
50									
40		1 X							
		2 X							
30									
20									
10									
0.0									
1000	.000 3550.0	0 6100.00	8650.00	11200.00	13750.00		850.00 214	00.00	26500.00 MHz
No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over		
			Level	Factor	ment	15.17			
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		Comment
1		4960.000	53.49	-9.49	44.00	74.00	-30.00	peak	
2	*	4960.000	43.22	-9.49	33.73	54.00	-20.27	AVG	

- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.



	Test Mode Test Frequency Temp		248	BMbps) BOMHz		Test Date Polarization			/11/26 zontal
120.0	lemp dBuV/m	)	2	3°C		Hum.		64	4%
110									
100									
90									
80									
70									
60									
50									
40		1 X 2 X							
30		^							
20									
10 0.0									
	0.000 3550.0		8650.00	11200.00				00.00	26500.00 MHz
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4960.000	53.40	-9.49	43.91	74.00	-30.09	peak	
2	*	4960.000	42.52	-9.49	33.03	54.00	-20.97	AVG	

- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.

**End of Test Report**