FCC CO-LOCATION RADIO TEST REPORT

FCC ID	:	**UZ7RE40**
Equipment	:	**RFID Module**
Brand Name	:	**ZEBRA**
Model Name	:	**RE40**
Applicant	:	**Zebra Technologies Corporation** **3 Overlook Point, Lincolnshire, IL 60069 USA**
Manufacturer	:	**Zebra Technologies Corporation** **3 Overlook Point, Lincolnshire, IL 60069 USA**
Standard	:	**FCC Part 15 Subpart C §15.247** **FCC Part 15 Subpart E §15.407**

The product was received on Feb. 03, 2026 and testing was performed from Mar. 19, 2026. We, Sporton International Inc. Wensan Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this partial report apply exclusively to the tested model / sample. Without written approval from Sporton International Inc. Wensan Laboratory, the test report shall not be reproduced except in full.

Louis Wu

Approved by: Louis Wu

Sporton International Inc. Wensan Laboratory

No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.)

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History of this test report

Report No.	Version	Description	Issue Date
FR5O1526-02R	01	Initial issue of report	Mar. 31, 2026

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	15.247(d) 15.407(b)	Unwanted Emissions	Pass	6.15 dB under the limit at 45.52 MHz for Quasi-Peak
3.2	15.203	Antenna Requirement	Pass	-

Conformity Assessment Condition:
1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacturer who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
2. The measurement uncertainty please refer to each test result in the section “Measurement Uncertainty”.
Disclaimer:
The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.

Reviewed by: Wei Chen

Report Producer: Yuri Huang

1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
Equipment	RFID Module
Brand Name	Zebra
Model Name	RE40
EUT supports Radios application	RFID
Installed into the Host	Brand Name:Zebra Model Name: ZD621 Host MFD: 13JAN26
HW Version	V21
FW Version	CAAFBS00-001-R07BN
MFD	13JAN26
EUT Stage	Identical Prototype

Antenna information		
902 MHz ~ 928 MHz	Peak Gain (dBi)	-28

Remark: The EUT's information above is declared by manufacturer. Please refer to Disclaimer in report summary.

Specification of Accessories				
Adapter	**Brand Name**	Zebra	**Part Number**	P1086001-006
USB Cable	**Brand Name**	Zebra	**Part Number**	300283-002

1.2 Product Specification of Equipment Under Test

Product Specification subjective to this Test Standard	
Tx/Rx Frequency Range	UHF RFID: 902 MHz ~ 928 MHz
Antenna Type	UHF RFID: LOOP Antenna
Type of Modulation	UHF RFID: ASK

Remark: The EUT's information above is declared by manufacturer. Please refer to Disclaimer in report summary.

1.3 Modification of EUT

No modifications made to the EUT during the testing.

1.4 Testing Location

Test Site	Sporton International Inc. Wensan Laboratory
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855
Test Site No.	**Sporton Site No.**
	03CH21-HY

Note: The test site complies with ANSI C63.4 2014 requirement.

FCC designation No.: TW3786

1.5 Applicable Standards

According to the specifications declared by the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC Part 15 Subpart C §15.247
- FCC KDB Publication No. 558074 D01 15.247 Meas Guidance v05r02
- FCC KDB 414788 D01 Radiated Test Site v01r01.
- ANSI C63.10-2020

Remark:

1. All the test items were validated and recorded in accordance with the standards without any modification during the testing.
2. The TAF code is not including all the FCC KDB listed without accreditation.
3. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

2 Test Configuration of Equipment Under Test

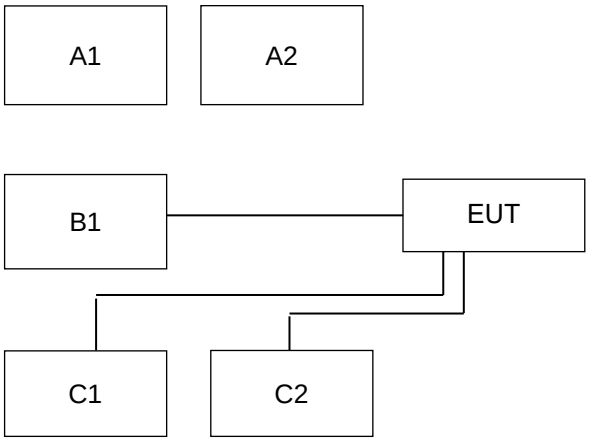
2.1 Test Mode

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, the measured emission level of the EUT was maximized by rotating the EUT on a turntable, adjusting the orientation of the EUT and EUT antenna in three orthogonal axis (X: flat, Y: portrait, Z: landscape), and adjusting the measurement antenna orientation, following C63.10 exploratory test procedures and only the worst case emissions were reported in this report.

2.2 Carrier Frequency and Channel

Frequency Band	Channel	Freq. (MHz)
920.5-927.5 MHz	0	920.25
	1	920.75
	2	921.25
	3	921.75
	4	922.25
	5	922.75
	6	923.25
	7	923.75
	8	924.25
	9	924.75
	10	925.25
	11	925.75
	12	926.25
	13	926.75
	14	927.25
	15	927.75

2.3 Connection Diagram of Test System



Radiation WLAN TX Test Setup							
No.	Wireless Station	Connection Type	Test Mode				
			BLE 1				
A1	BT Earphone	Bluetooth					
A2	AP router	WiFi					
No.	**Power Source**	**Connection Type**	**1**				
B1	AC : 120V/60Hz	AC Power Cable	**X**				
No.	**Setup Peripherals**	**Connection Type**	**1**				
C1	Adapter	POE	**X**				
C2	NoteBook	USB cable	**X**				

2.4 Support Unit used in test configuration and system

Item	Equipment	Brand Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Notebook	Lenovo	15IHU6	N/A	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m

3 Test Result

3.1 Unwanted Emissions Measurement

<For BLE / RFID>

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required shall be 30 dB instead of 20 dB. In addition, radiated emissions which fall in the restricted bands must also comply with the limits as below.

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
Above 960	500	3

<For LTE>

The radiated spurious emission was measured by substitution method according to ANSI / TIA-603-E.The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least 43 + 10 log (P) dB.

3.1.1 Measuring Instruments

Please refer to the measuring equipment list in this test report.

3.1.2 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section G) Unwanted emissions measurement.

   (1) Procedure for Unwanted Emissions Measurements Below 1000 MHz

   - RBW = 120 kHz
   - VBW = 300 kHz
   - Detector = Peak
   - Trace mode = max hold

   (2) Procedure for Peak Unwanted Emissions Measurements Above 1000 MHz

   - RBW = 1 MHz
   - VBW ≥ 3 MHz
   - Detector = Peak
   - Sweep time = auto
   - Trace mode = max hold

   (3) Procedures for Average Unwanted Emissions Measurements Above 1000 MHz

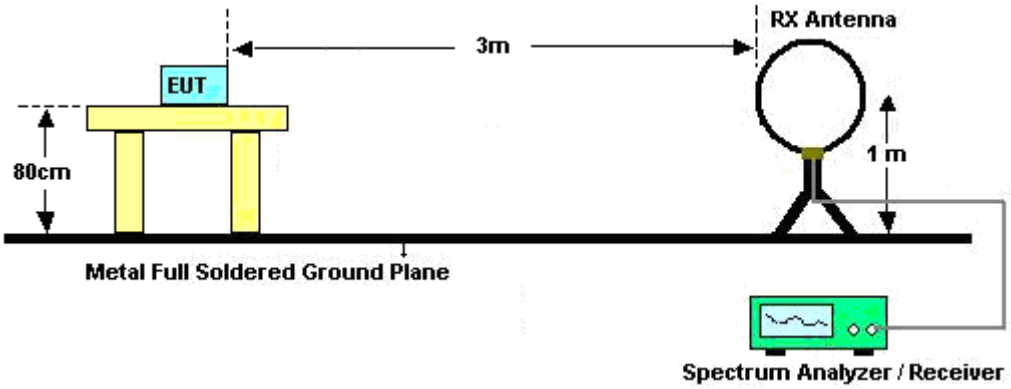
   - RBW = 1 MHz
   - VBW = 10 Hz, when duty cycle is no less than 98 percent.
   - VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

2. The EUT is placed on a turntable with 0.8 meter for frequency below 1 GHz and 1.5 meter for frequency above 1 GHz respectively above ground.
3. The EUT is set 3 meters away from the receiving antenna which is mounted on the top of a variable height antenna tower.
4. The antenna is a broadband antenna and its height is adjusted between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT is arranged to its worst case and then adjust the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. Radiated testing below 1 GHz is performed by adjusting the antenna tower from 1 m to 4 m and by rotating the turn table from 0 degree to 360 degrees to find the peak maximum hold reading. When there is no suspected emission found and the emission level is with at least 6 dB margin against QP limit line, the position is marked as “-“.

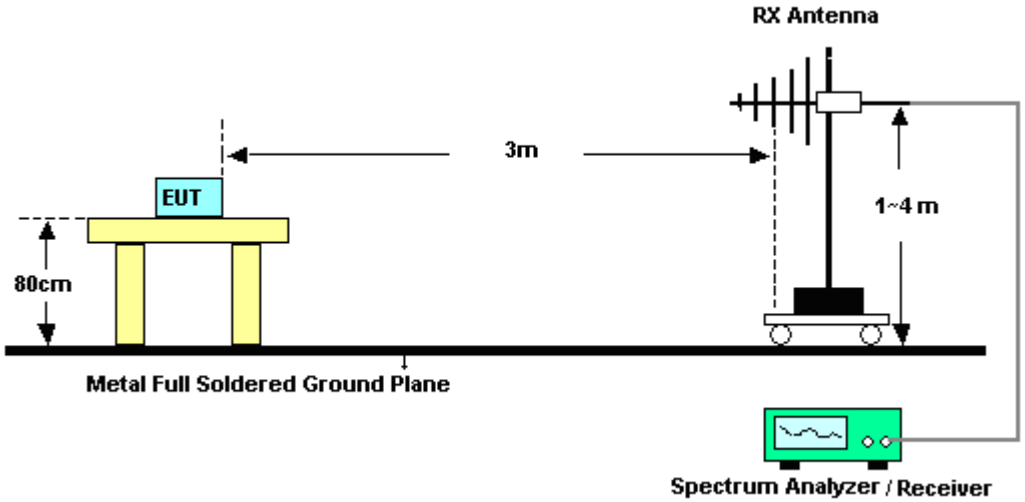
7. Radiated testing above 1 GHz is performed by adjusting the antenna tower from 1 m to 4 m and by rotating the turn table from 0 degree to 360 degrees to find the peak maximum hold reading for scanning all frequencies. When there is no suspected emission found and the harmonic emission level is with at least 6 dB margin against average limit line, the position is marked as "-".

3.1.3 Test Setup

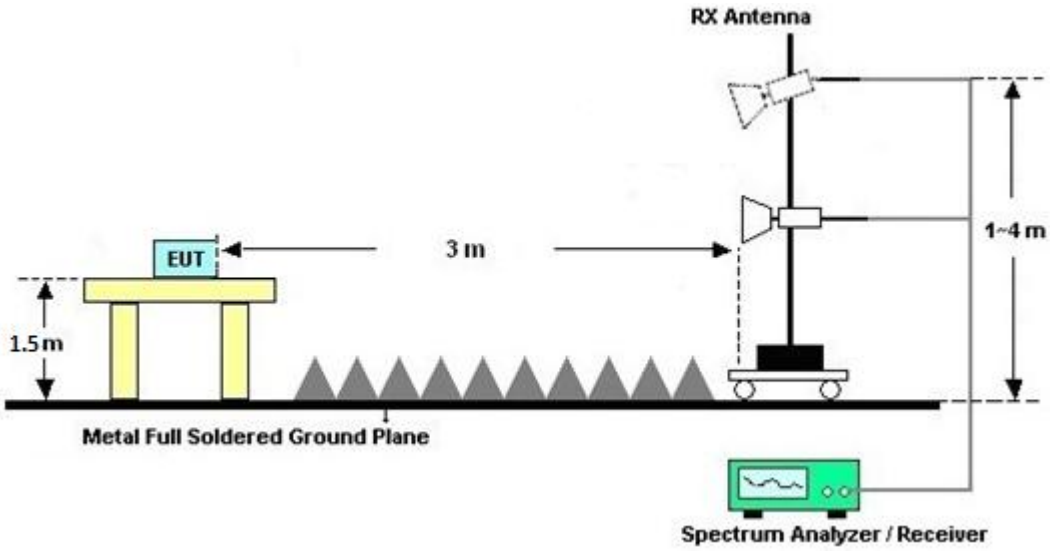
For radiated emissions below 30MHz



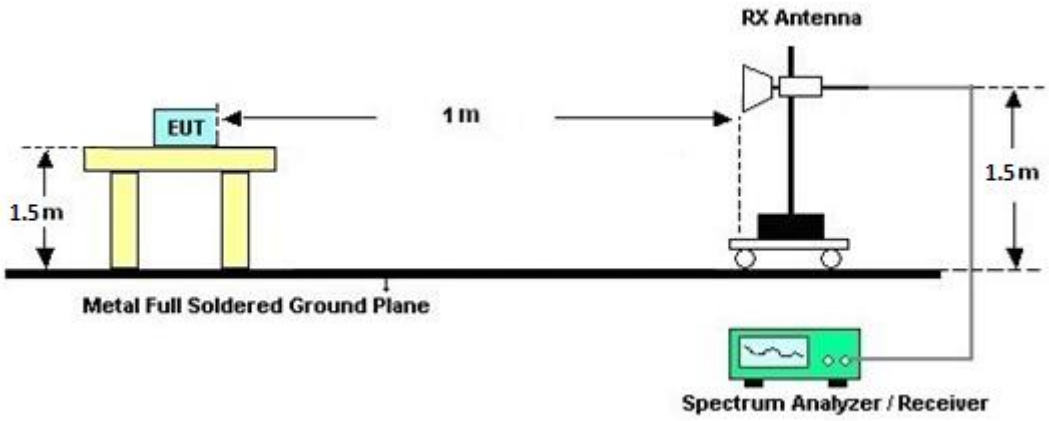
For radiated emissions from 30MHz to 1GHz



For radiated test from 1GHz to 18GHz



For radiated test above 18GHz



3.1.4 Test Results of Radiated Spurious Emissions (9 kHz ~ 30 MHz)

The low frequency, which starts from 9 kHz to 30 MHz, is pre-scanned and the result which is 20 dB lower than the limit line is not reported.

There is adequate comparison measurement of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.

3.1.5 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix A.

3.1.6 Duty Cycle

Please refer to Appendix B.

3.1.7 Test Result of Radiated Spurious Emissions (30MHz ~ 10th Harmonic)

Please refer to Appendix A.

3.2 Antenna Requirements

3.2.1 Standard Applicable

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 shall be considered sufficient to comply with the provisions of this section. 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. This requirement does not apply to carrier current devices or to devices operated under the provisions of § 15.211, 15.213, 15.217, 15.219, 15.221, or § 15.236. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with § 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

3.2.2 Antenna Anti-Replacement Construction

Antenna permanently attached.

4 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
LOOP Antenna	Rohde & Schwarz	HFH2-Z2E	101108	9 kHz~30 MHz	Dec. 11, 2025	Mar. 19, 2026	Dec. 10, 2026	Radiation (03CH21-HY)
Bilog Antenna	TESEQ & WOKEN	CBL 6111D & 00802N1D-06	63303 & 001	30MHz~1GHz	Nov. 26, 2025	Mar. 19, 2026	Nov. 25, 2026	Radiation (03CH21-HY)
Double Ridged Guide Horn Antenna	RFSPIN	DRH18-E	LE2C03A18EN	1GHz~18GHz	Aug. 07, 2025	Mar. 19, 2026	Aug. 06, 2026	Radiation (03CH21-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	1223	18GHz~40GHz	Jul. 02, 2025	Mar. 19, 2026	Jul. 01, 2026	Radiation (03CH21-HY)
Amplifier	SONOMA	310N	421580	30MHz~1GHz	Jul. 13, 2025	Mar. 19, 2026	Jul. 12, 2026	Radiation (03CH21-HY)
Amplifier	EMEC	EM01G18GA	060876	1GHz~18GHz	Sep. 26, 2025	Mar. 19, 2026	Sep. 25, 2026	Radiation (03CH21-HY)
Preamplifier	EMEC	EM18G40G	060873	18GHz~40GHz	Aug. 26, 2025	Mar. 19, 2026	Aug. 25, 2026	Radiation (03CH21-HY)
EXA Signal Analyzer	Keysight	N9010B	MY62170358	10Hz~44GHz	Sep. 09, 2025	Mar. 19, 2026	Sep. 08, 2026	Radiation (03CH21-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803951/2	9kHz~30MHz	Mar. 04, 2026	Mar. 19, 2026	Mar. 03, 2027	Radiation (03CH21-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	804397/2,804612/2,803954/2	30MHz~40GHz	Aug. 11, 2025	Mar. 19, 2026	Aug. 10, 2026	Radiation (03CH21-HY)
RF Cable	EMCI	EMC101Y-KM-KM-1000	240906	30MHz~40GHz	Oct. 21, 2025	Mar. 19, 2026	Oct. 20, 2026	Radiation (03CH21-HY)
Hygrometer	TECPEL	DTM-303A	TP211568	N/A	Oct. 21, 2025	Mar. 19, 2026	Oct. 20, 2026	Radiation (03CH21-HY)
Controller	EMEC	EM 1000	N/A	Control Turn table & Ant Mast	N/A	Mar. 19, 2026	N/A	Radiation (03CH21-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1~4m	N/A	Mar. 19, 2026	N/A	Radiation (03CH21-HY)
Turn Table	EMEC	TT 2000	N/A	0~360 Degree	N/A	Mar. 19, 2026	N/A	Radiation (03CH21-HY)
Software	Audix	E3 6.2009-8-24	RK-001053	N/A	N/A	Mar. 19, 2026	N/A	Radiation (03CH21-HY)

5 Measurement Uncertainty

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**6.4 dB**

Uncertainty of Radiated Emission Measurement (1000 MHz ~ 6000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.8 dB**

Uncertainty of Radiated Emission Measurement (6000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.8 dB**

Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.3 dB**

Appendix A. Radiated Spurious Emission Test Data

Test Engineer :	Jack Cheng, Ray Lung	Temperature :	21.1 ~ 25.7°C
		Relative Humidity :	55.8 ~ 63.2%

Note symbol

-L	**Low channel location**
-R	**High channel location**

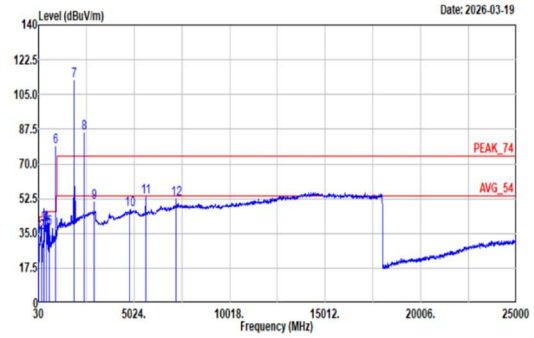
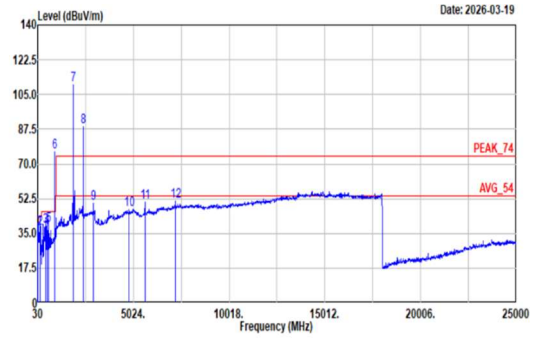
A1. Radiated Spurious Emission Test Modes

Mode	Band (MHz)	Antenna	Modulation	Channel	Frequency	Data Rate	RU	Remark
Mode 1	2400-2483.5 902-928 1850-1910	0	BLE RFID LTE	00 26 18900	2402 915 1872	-	-	-

A2. Summary of each worse mode

Mode	Modulation	Ch.	Freq. (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pol.	Peak Avg.	Result	RU	Remark
1	BLE RFID LTE	00 26 18900	45.52	33.85	40.00	-6.15	V	QP	Pass	-	Harmonic

Mode	1
	Harmonic
	2400-2483.5_BLE_CH00_2402MHz
	RFID_915MHz
	LTE Band 2 20M Ch18900 1RB0 QPSK

Pol.	Horizontal	Vertical
Peak Avg		

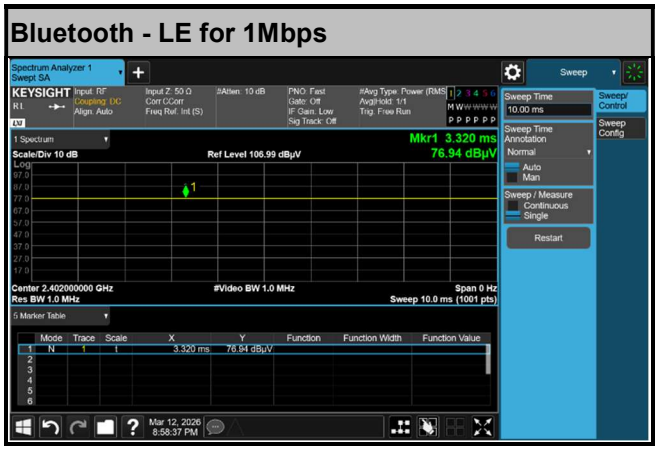
Site : 03CH21-HY
Condition: PEAK_74 3m DRH18-E_LE2C03A18EN_250807 HORIZONTAL

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	45.52	33.37	40.00	-6.63	48.08	16.63	1.12	32.48	0.02	--	--	PEAK
2	200.72	35.40	43.50	-8.10	50.22	15.11	2.47	32.46	0.06	--	--	QP
3	300.63	39.58	46.00	-6.42	49.60	19.32	3.06	32.47	0.07	--	--	QP
4	430.61	39.47	46.00	-6.53	45.60	22.75	3.65	32.61	0.08	--	--	QP
5	600.36	37.62	46.00	-8.38	40.15	25.82	4.31	32.78	0.12	--	--	QP
6	915.61	78.49	------	------	75.06	29.52	5.33	31.59	0.17	--	--	PEAK
7	1872.00	112.17	------	------	111.11	25.02	7.50	32.44	0.98	--	--	PEAK
8	2402.00	85.69	------	------	82.37	26.72	8.53	32.84	0.91	--	--	PEAK
9	2934.00	50.71	74.00	-23.29	45.44	28.00	9.47	33.14	0.94	--	--	PEAK
10	4804.00	46.82	74.00	-27.18	34.15	32.21	12.13	34.11	2.44	--	--	PEAK
11	5625.00	53.25	------	------	40.56	33.00	13.09	34.93	1.53	--	--	PEAK
12	7215.00	52.39	------	------	36.04	36.40	14.95	36.35	1.35	--	--	PEAK

Site : 03CH21-HY
Condition: PEAK_74 3m DRH18-E_LE2C03A18EN_250807 VERTICAL

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	45.52	33.85	40.00	-6.15	48.56	16.63	1.12	32.48	0.02	--	--	QP
2	150.28	37.33	43.50	-6.17	50.44	17.08	2.15	32.40	0.06	--	--	QP
3	428.67	38.51	46.00	-7.49	44.64	22.75	3.64	32.60	0.08	--	--	QP
4	500.45	38.11	46.00	-7.89	42.61	24.10	3.92	32.64	0.12	--	--	QP
5	600.36	39.05	46.00	-6.95	41.58	25.82	4.31	32.78	0.12	--	--	QP
6	915.61	75.95	------	------	72.52	29.52	5.33	31.59	0.17	--	--	PEAK
7	1872.00	109.82	------	------	108.76	25.02	7.50	32.44	0.98	--	--	PEAK
8	2402.00	88.62	------	------	85.30	26.72	8.53	32.84	0.91	--	--	PEAK
9	2934.00	50.18	74.00	-23.82	44.91	28.00	9.47	33.14	0.94	--	--	PEAK
10	4804.00	47.15	74.00	-26.85	34.48	32.21	12.13	34.11	2.44	--	--	PEAK
11	5625.00	50.82	------	------	38.13	33.00	13.09	34.93	1.53	--	--	PEAK
12	7215.00	51.15	------	------	34.80	36.40	14.95	36.35	1.35	--	--	PEAK

Appendix B. Duty Cycle Plots

Antenna	Band	Duty Cycle (%)	T(us)	1/T(kHz)	VBW Setting
0	Bluetooth - LE for 1Mbps	100.00	-	-	10Hz

Bluetooth - LE for 1Mbps