Annex 1: Measurement diagrams to
T E S T R E P O R T
No.: 16-1-0192001T01a

According to:
FCC Regulations
Part 15.225
Part 15.209
IC Regulations
RSS-210, Issue 9
RSS-Gen Issue 4

for

Océ-Technologies B.V

PBA,RFID_READER
Océ 01087

FCC-ID: 2AGNMOCE01087
IC: 22117-OCE01087

Laboratory Accreditation and Listings			
DAkkS Deutsche Akkreditierungsstelle D-PL-12047-01-01	MRA US-EU 0003	Industry Canada Reg. No.: 3462D-2 Reg. No.: 3462D-3	Voluntary Controls for Electromagnetic Emissions Reg. No.: R-2666 C-2914, T-1967, G-301
WiFi ALLIANCE AUTHORIZED RF LABORATORY	ctia Authorized™ Test Lab Lab Code: 20011130-00		
accredited according to DIN EN ISO/IEC 17025			

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1. Radiated Measurements

1.1. Radiated Field Strength Emissions below 30 MHz

1.1.1 Radiated Field Strength with Transmitter Spectrum Mask:

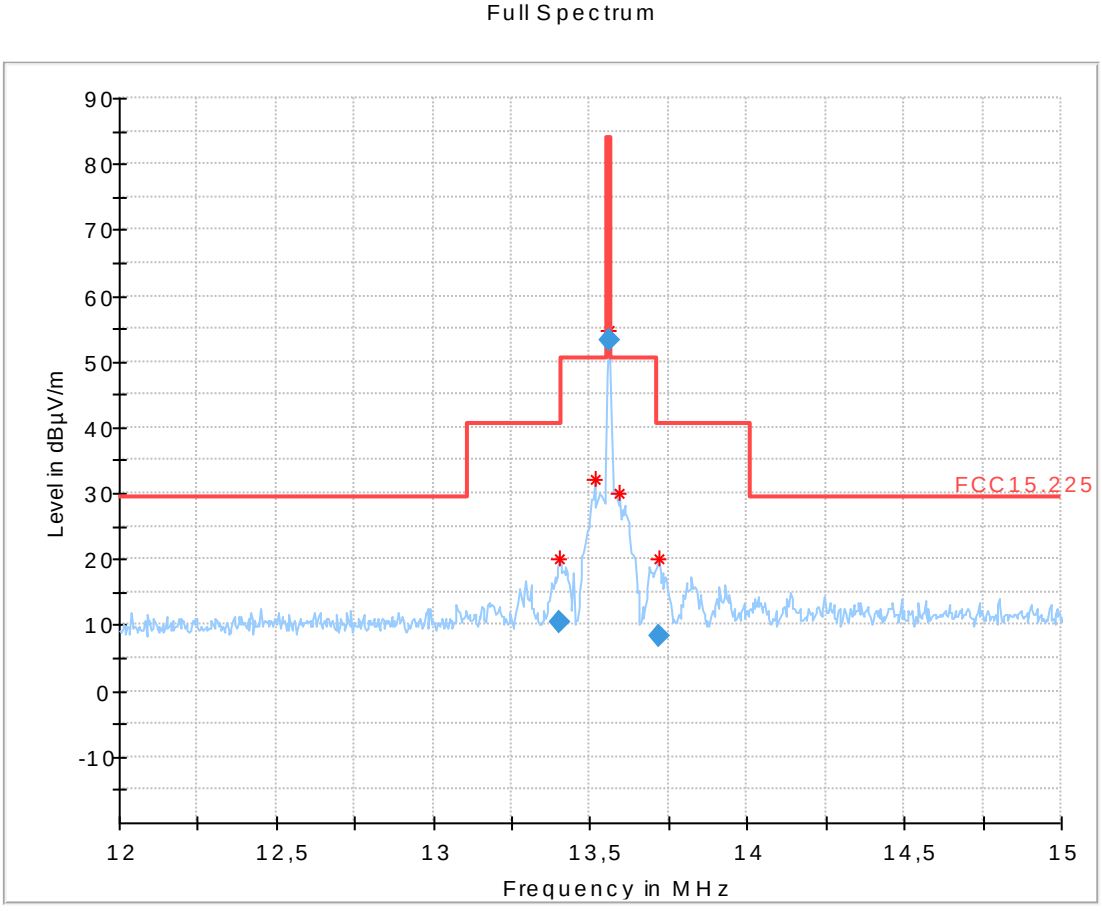
Diagram No. 2.01: 13.56MHz-Spectrum Mask

Common Information

Test description:	Magnetic Field Strength Measurement related to 30 m distance
Test site and distance:	Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance
Version of Testsoftware:	EMC32 V9.25.0
Distance correction:	used accord. table, pls. see test report
Technical Data:	Please see page 2 for detailed data of measurement setup
Rec. antenna (pre-scan):	height 1.00 m, parallel and 90° to EUT polarisation
Used filter:	bypass
Test specification:	FCC 15.225; & RSS-210, Issue 9 Annex B.6
Operator:	YSa
Operating conditions:	TX-On - Nominal Channel 13.56 MHz, Continuous, Modulation On
Power during tests:	5 V DC

EUT Information

Manufacturer:	Océ Technologies B.V.
EUT Model Number:	Océ 01087
Type:	PBA, RFID_READER
HW version:	1070063374-01
SW version:	1070066805
Serial number:	3515490148
Connected Interfaces:	RI-I03-112A RFID TAG
Power Supply:	5 V DC



Final_Result

Frequency (MHz)	RMS (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
13.402000	10.58	40.50	29.92	1000.0	10.000	100.0	V	285.0	0.0	-1.6
13.558000	53.10	84.00	30.90	1000.0	10.000	100.0	V	285.0	0.0	-1.5
13.718000	8.41	40.50	32.09	1000.0	10.000	100.0	V	267.0	0.0	-1.4

1.1.2 Radiated Spurious Emissions 9kHz -30 MHz:

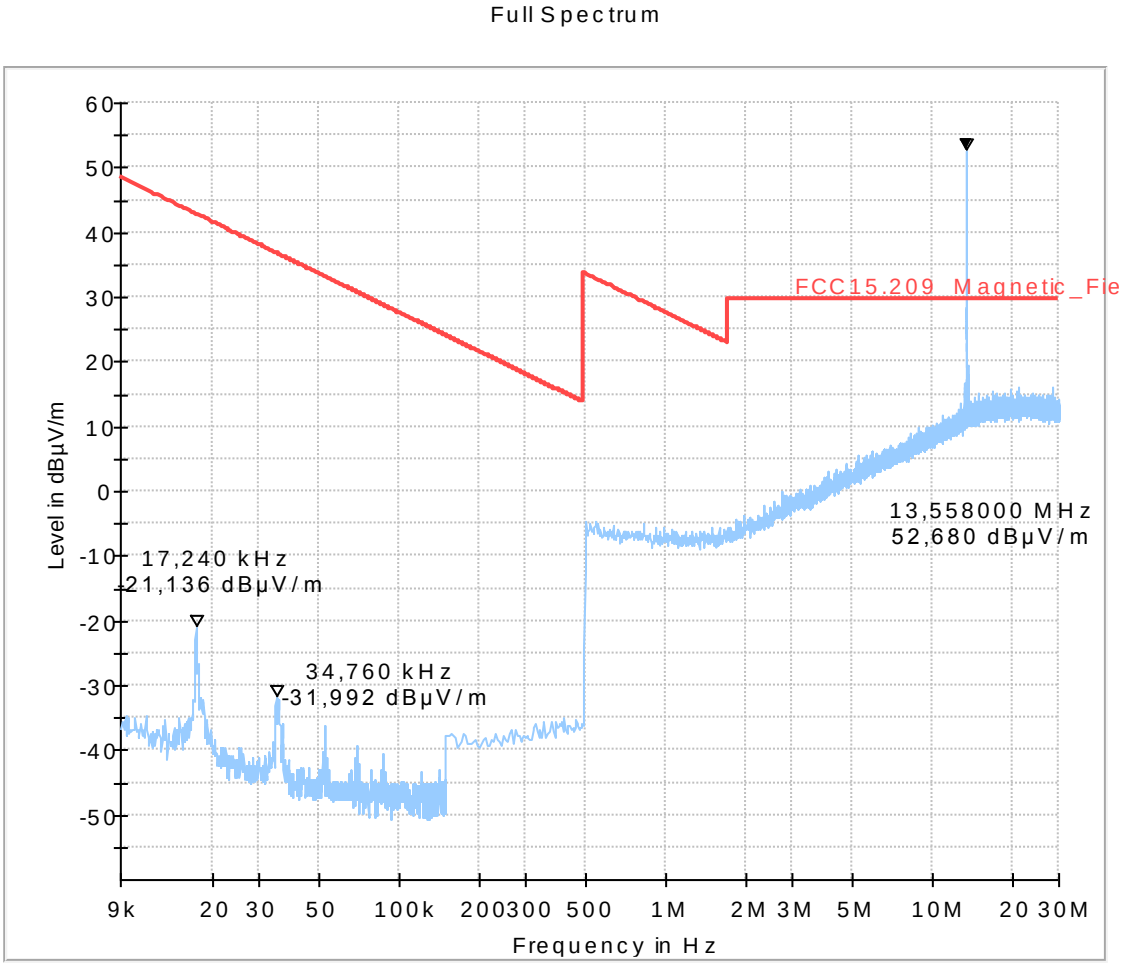
Diagram No. 2.02 Radiated Field Strength 9kHz-30MHz

Common Information

Test description:	Electric Field Strength Measurement
Test site and distance:	Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance
Version of Testsoftware:	EMC32 V9.25.0
Distance correction:	not used
Used filter:	not used
Technical Data:	please see page 2 for detailed data of measurement setup
Test specification.:	FCC 15.209/15.205; RSS-Gen., Issue 4
Operator:	YSa
Operating conditions:	TX-On - Nominal Channel 13.56 MHz, Continuous, Modulation On
Power during tests:	5 V DC

EUT Information

Manufacturer:	Océ Technologies B.V.
EUT Model Number:	Océ 01087
Type:	PBA, RFID_READER
HW version:	1070063374-01
SW version:	1070066805
Serial number:	3515490148
Connected Interfaces:	RI-I03-112A RFID TAG
Power Supply:	5 V DC



1.2 Radiated Spurious Emissions above 30 MHz

1.2.1 Radiated Spurious Emissions 30 MHz – 1 GHz

3.01 Radiated Field Strength 30MHz-1GHz

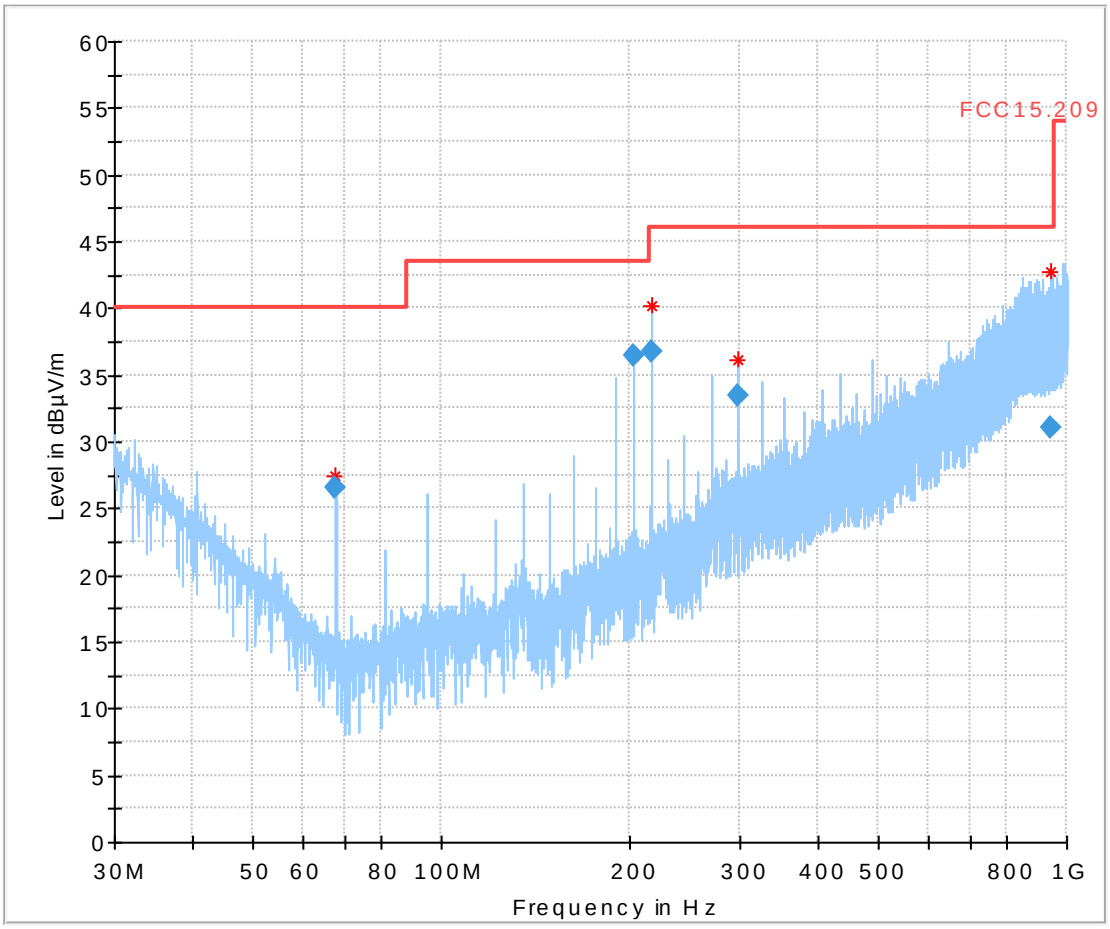
Common Information

Test description:	Electric Field Strength Measurement
Test site and distance:	Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance
Version of Testsoftware:	EMC32 V9.25.0
Distance correction:	not used
Used filter:	not used
Technical Data:	please see page 2 for detailed data of measurement setup
Test specification.:	FCC 15.209/15.205; RSS-Gen., Issue 4
Operator:	RIs
Operating conditions:	TX-On - Nominal Channel 13.56 MHz, Continuous, Modulation On
Power during tests:	5V DC

EUT Information

Manufacturer:	Océ Technologies B.V.
EUT Model Number:	Océ01087
Type:	PBA, RFID_READER
HW version:	1070063374-01
SW version:	1070066805
Serial number:	3515490148
Connected Interfaces:	RI-I03-112A RFID TAG
Power Supply:	5 V DC

Full Spectrum

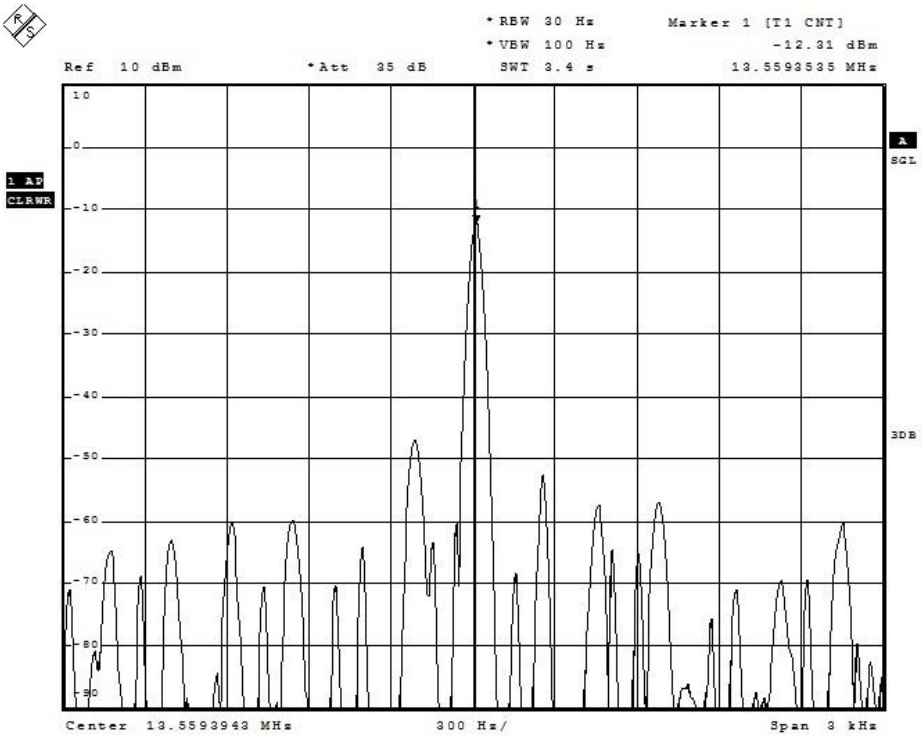


Final_Result

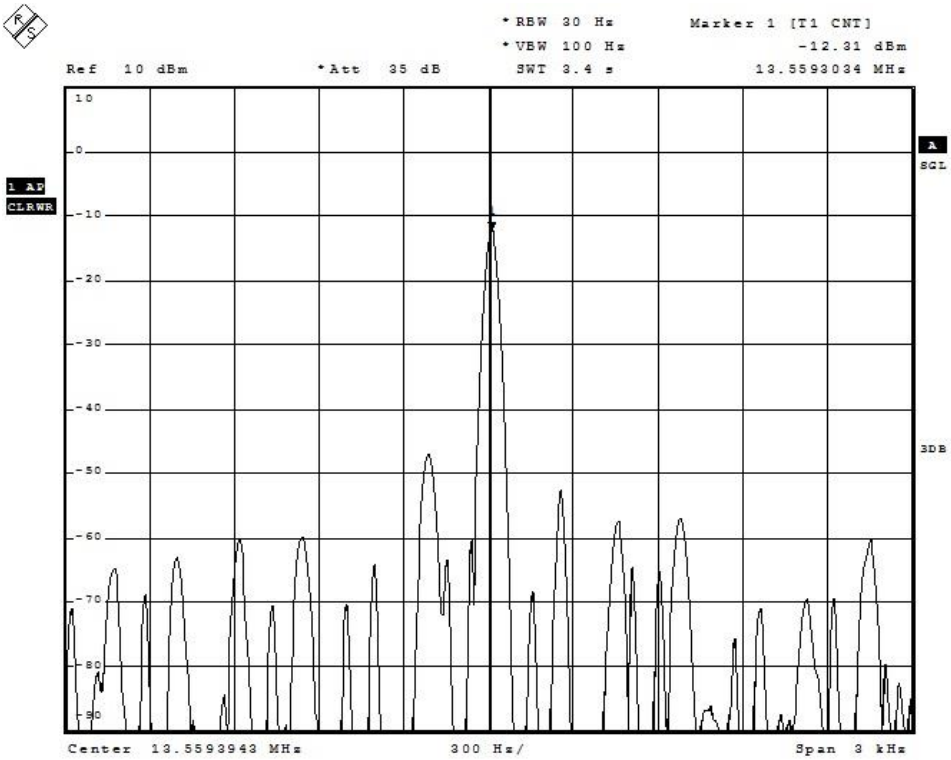
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
67.796000	26.58	40.00	13.42	1000.0	120.000	105.0	V	334.0	0.0	6.8
203.392000	36.44	43.50	7.06	1000.0	120.000	139.0	H	-6.0	90.0	11.4
216.952000	36.70	46.00	9.30	1000.0	120.000	134.0	H	-7.0	90.0	12.0
298.308000	33.44	46.00	12.56	1000.0	120.000	105.0	H	346.0	90.0	15.0
941.512000	31.06	46.00	14.94	1000.0	120.000	211.0	V	40.0	90.0	27.1

2. Frequency Stability

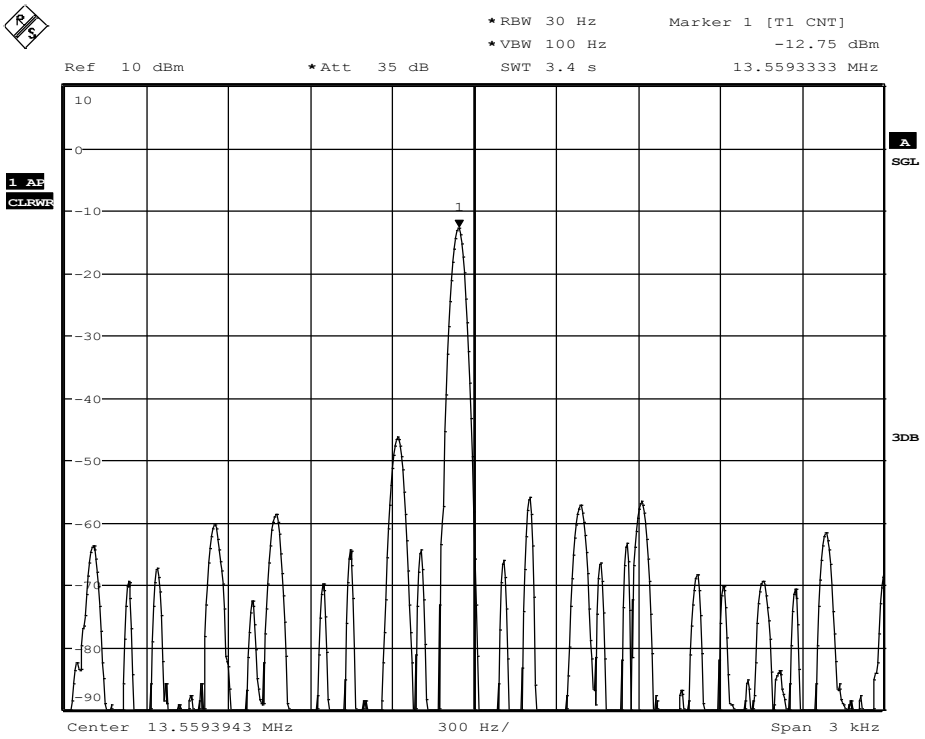
Frequency Error for Tnom=21°C | Vmin= 4.25 V DC (Reference) | TX Full Power Mode (200 mW)



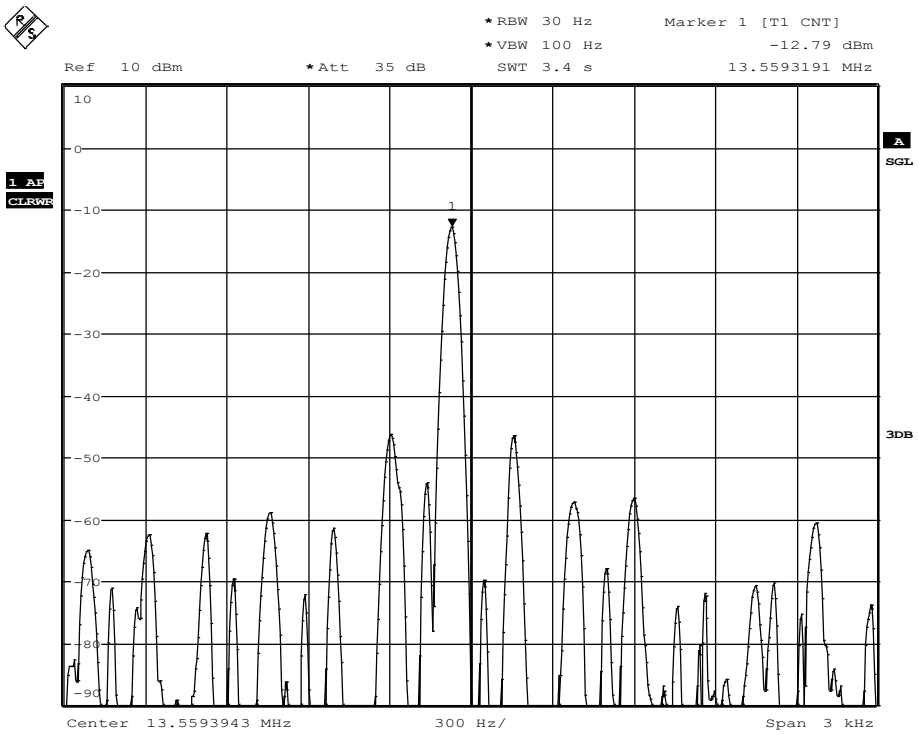
Frequency Error for Tnom=21°C | Vmax= 5.75 V DC (Reference) | TX Full Power Mode (200 mW)



Frequency Error for T=+50°C | Vnom=5.0 V DC | TX Full Power Mode (200 mW)

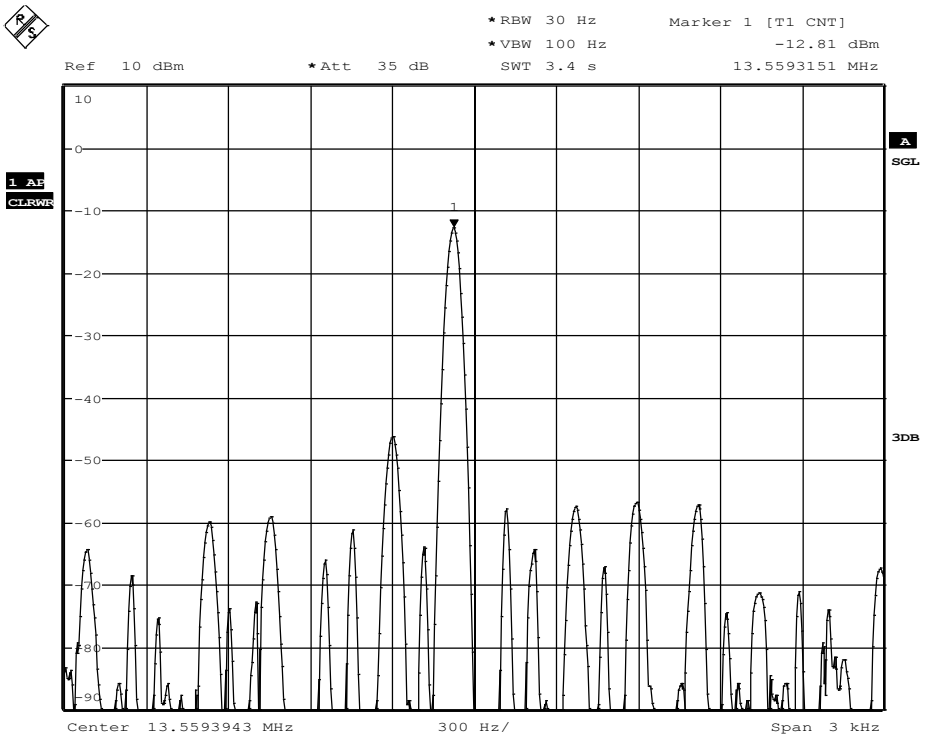


On TX-Start Up

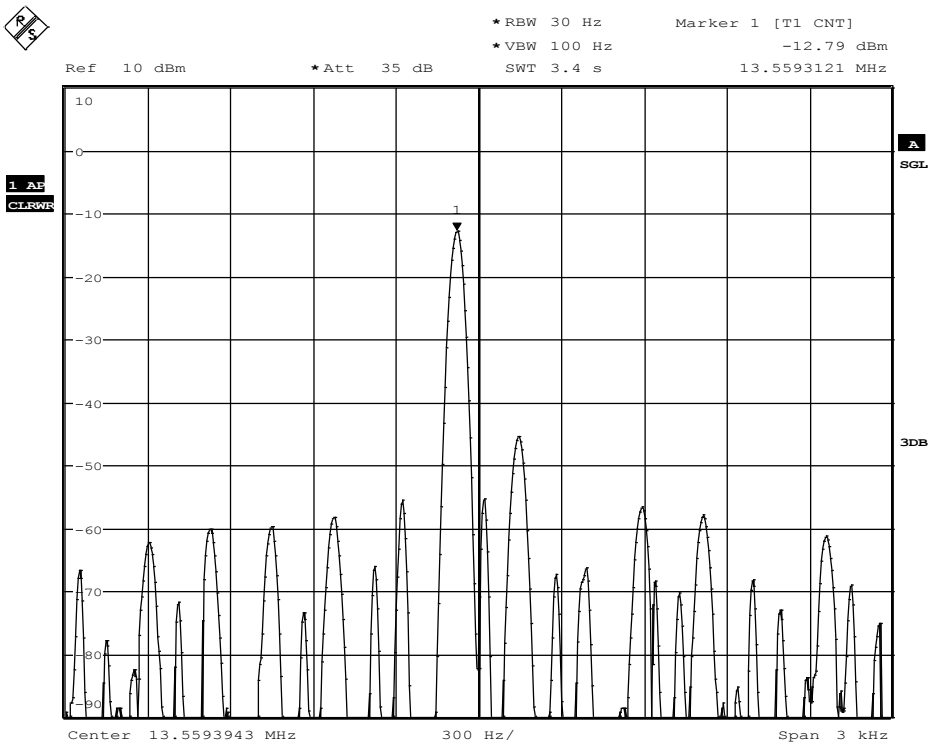


On 2Minutes after TX-Start Up

Frequency Error for T=+50°C | Vnom=5.0 V DC | TX Full Power Mode (200 mW)

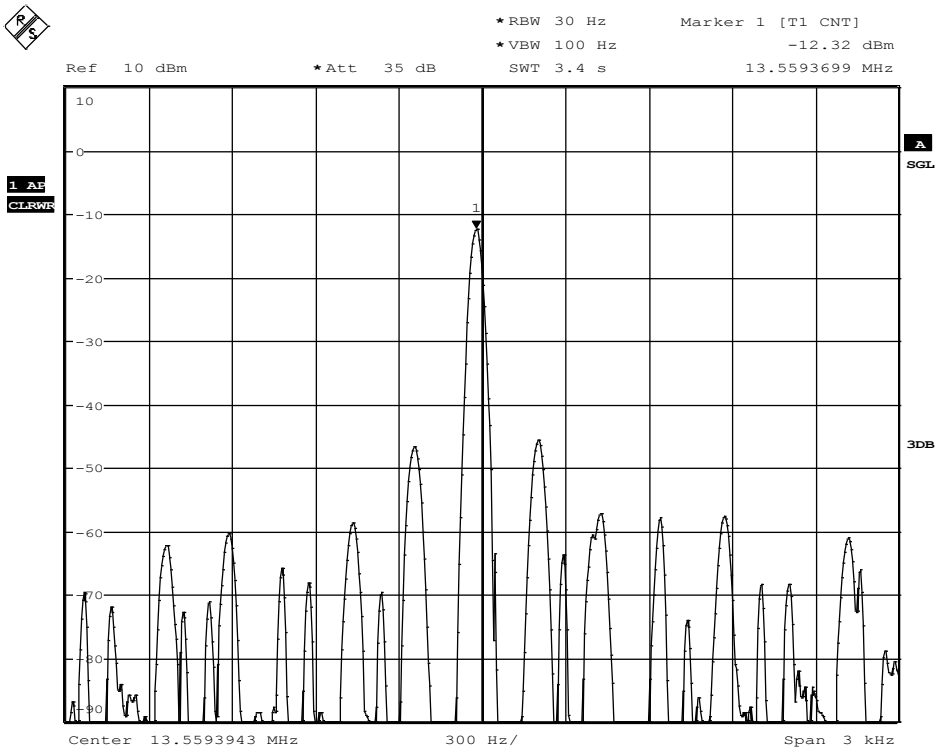


On 5Minutes after TX-Start Up

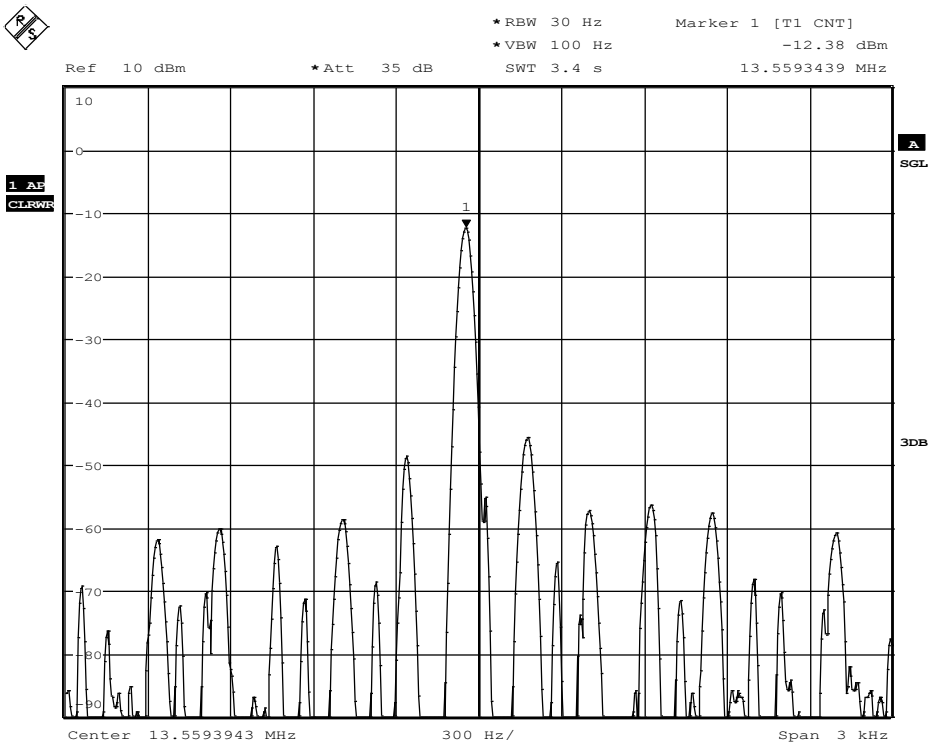


On 10Minutes after TX-Start Up

Frequency Error for T=+40°C | Vnom=5.0 V DC | TX Full Power Mode (200 mW)

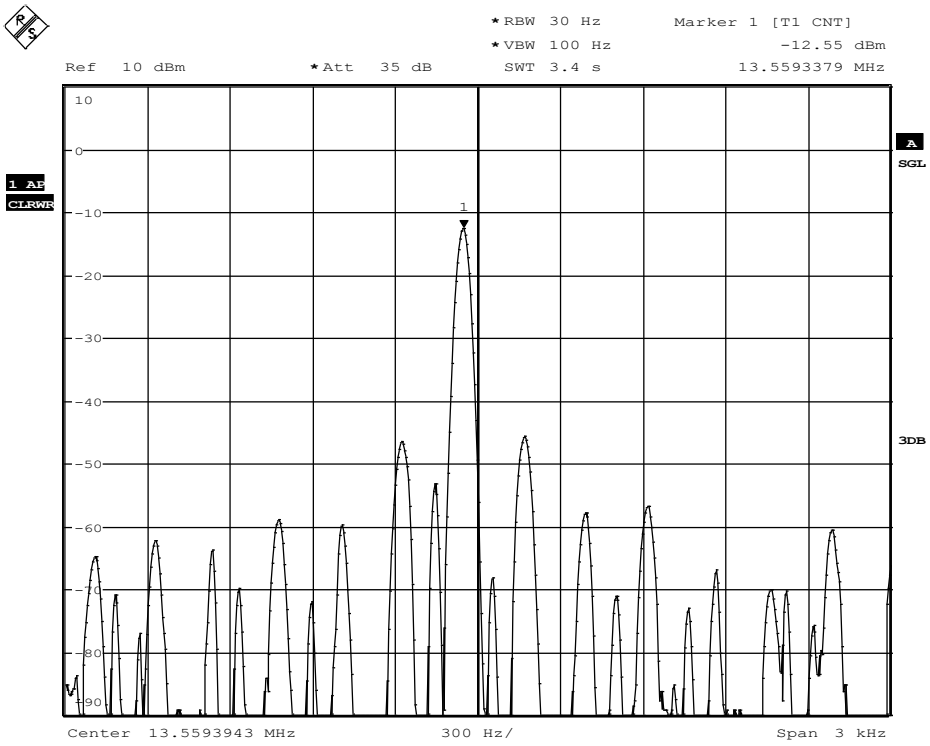


On TX-Start Up



On 2Minutes after TX-Start Up

Frequency Error for T= +40°C | Vnom=5.0 V DC | TX Full Power Mode (200 mW)



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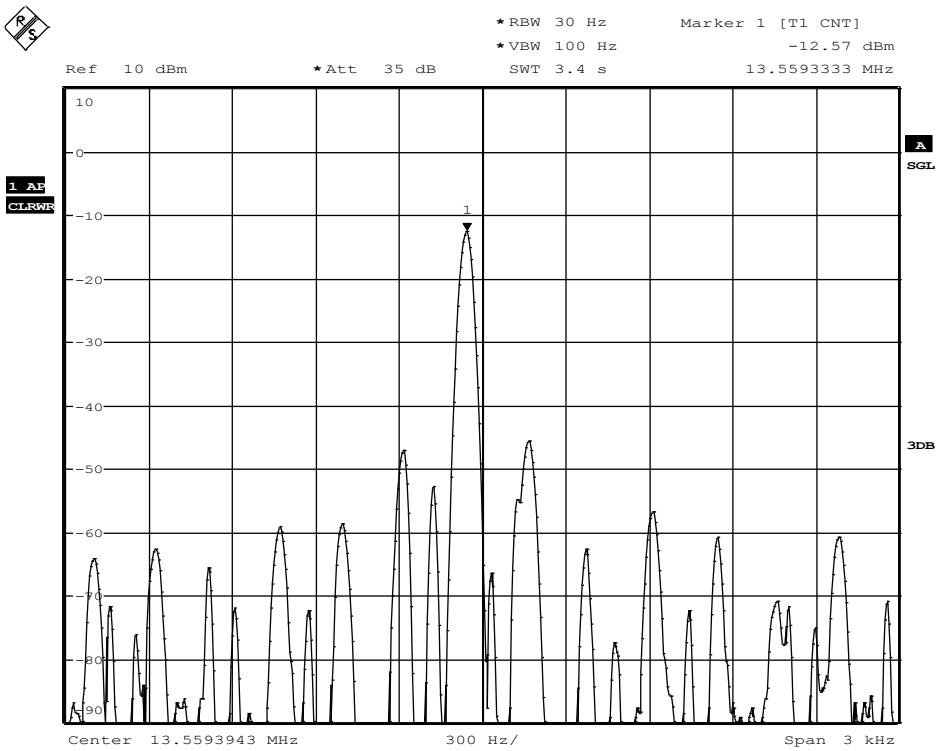
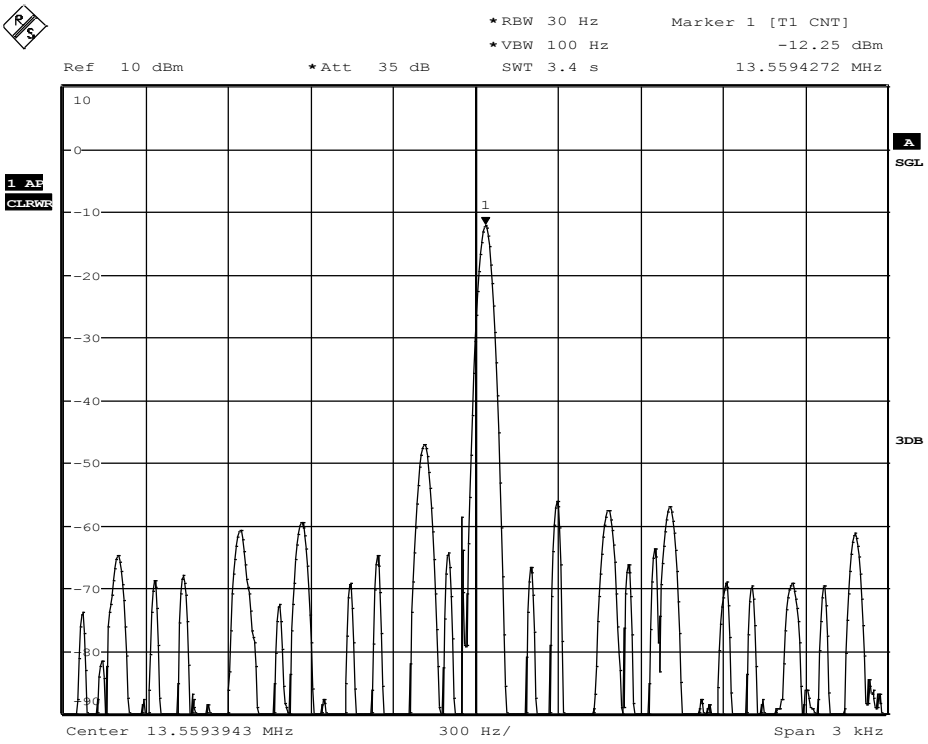
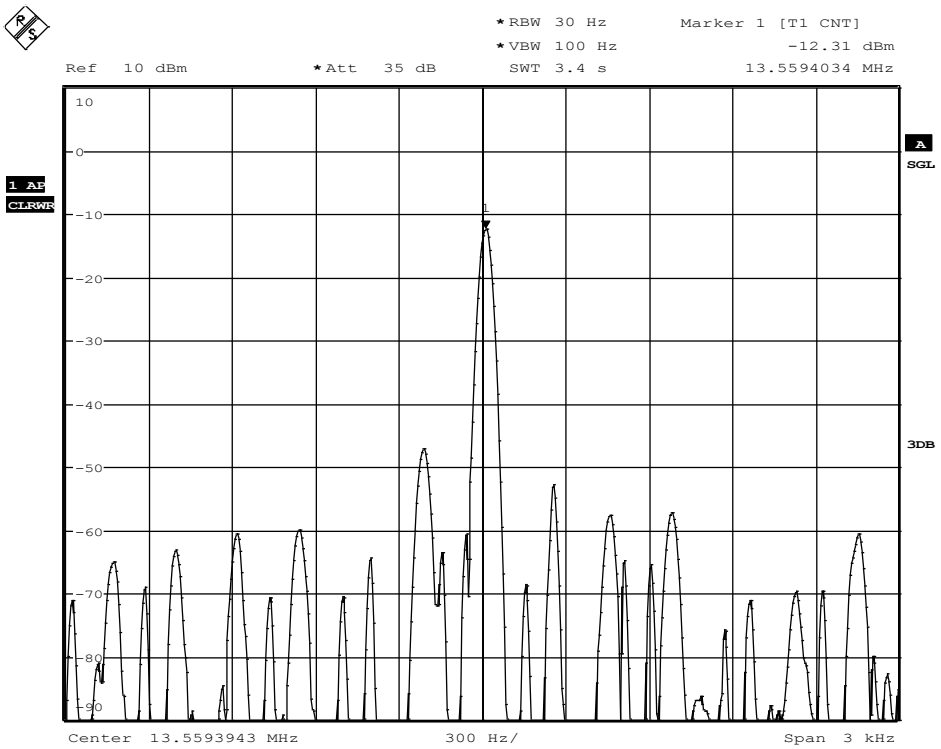


On 10Minutes after TX-Start Up

Frequency Error for T=+30°C | Vnom=5.0 V DC | TX Full Power Mode (200 mW)

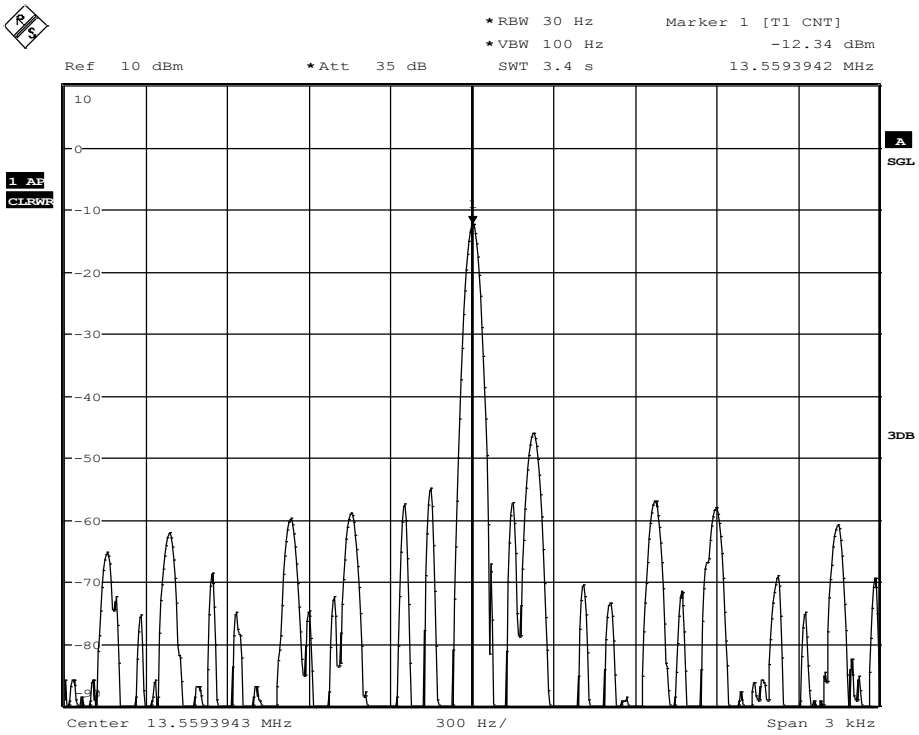


On TX-Start Up

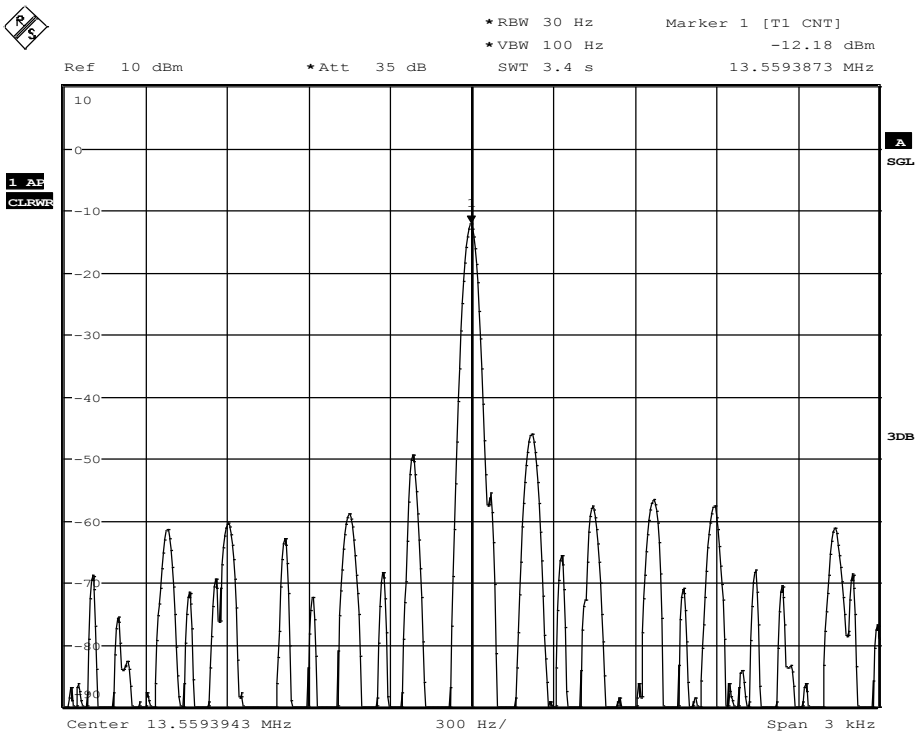


On 2Minutes after TX-Start Up

Frequency Error for T=+30°C | Vnom=5.0 V DC | TX Full Power Mode (200 mW)

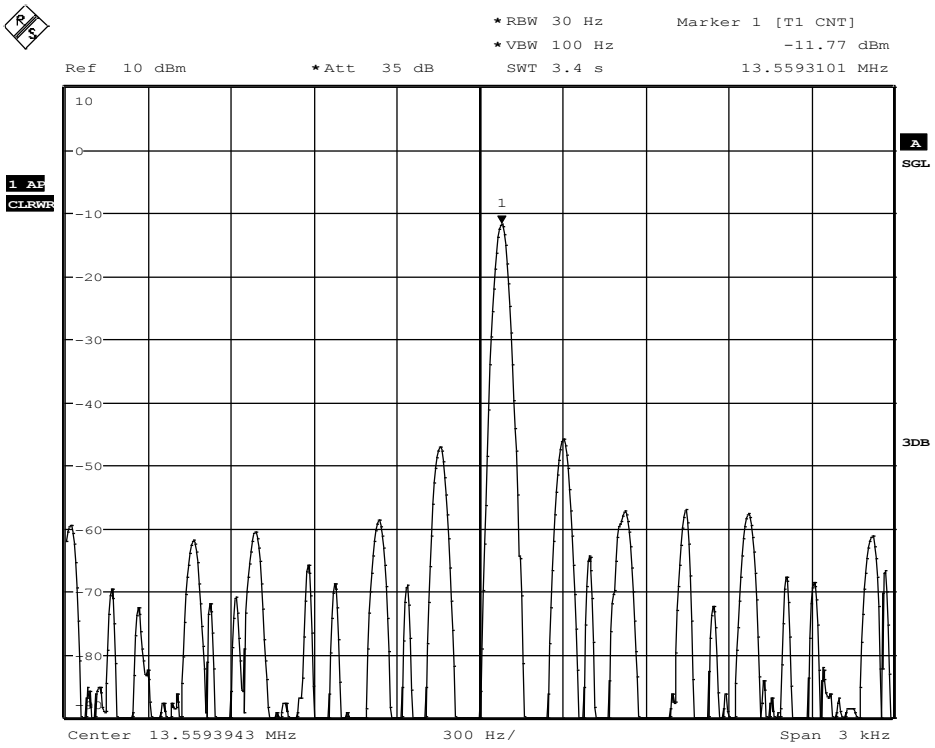


On 5Minutes after TX-Start Up

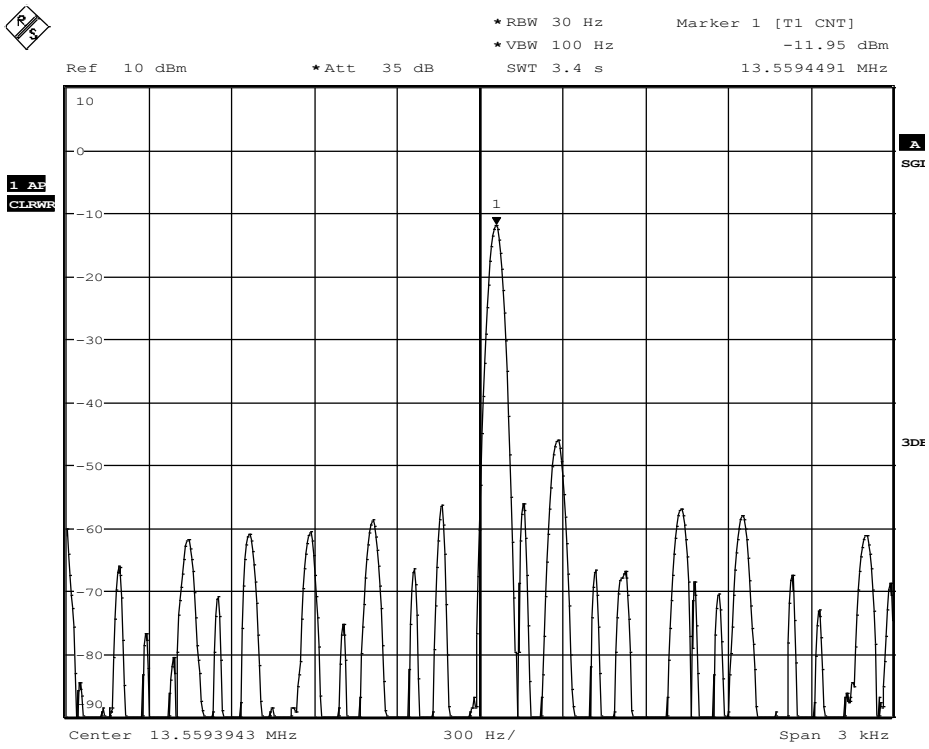


On 10Minutes after TX-Start Up

Frequency Error for T=+10°C | Vnom=5.0 V DC | TX Full Power Mode (200 mW)

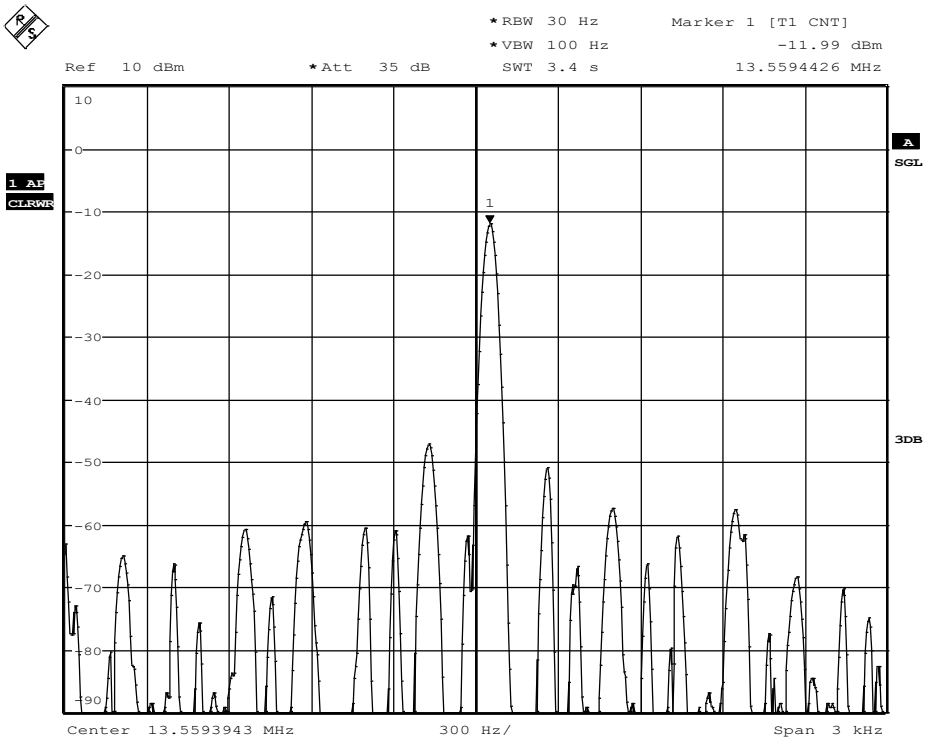


On TX-Start Up



On 2Minutes after TX-Start Up

Frequency Error for T= +10°C | Vnom=5.0 V DC | TX Full Power Mode (200 mW)



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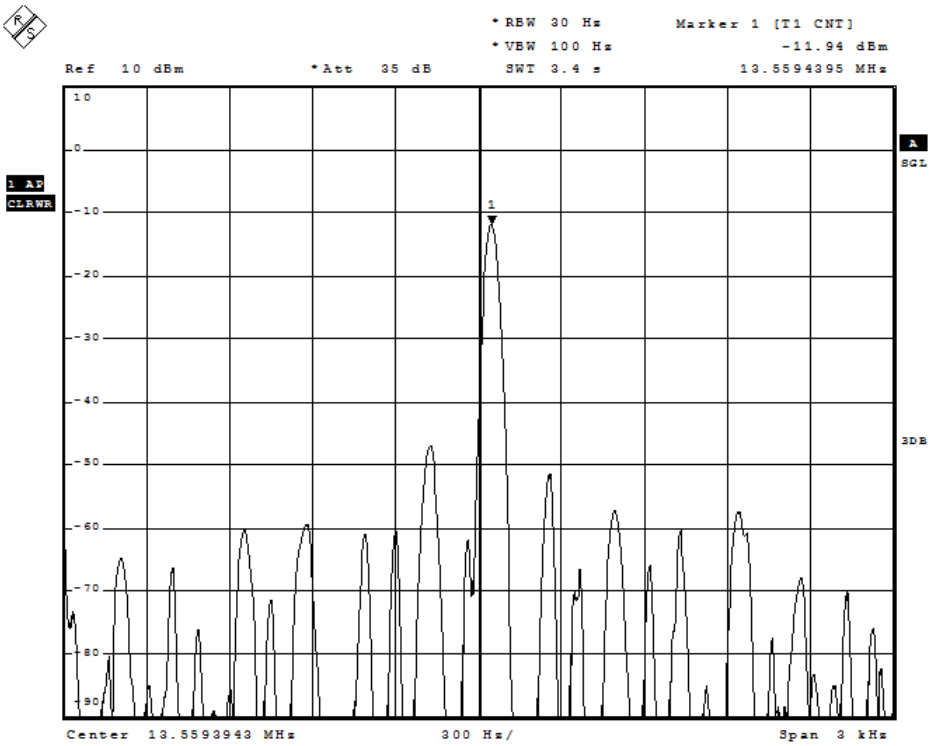
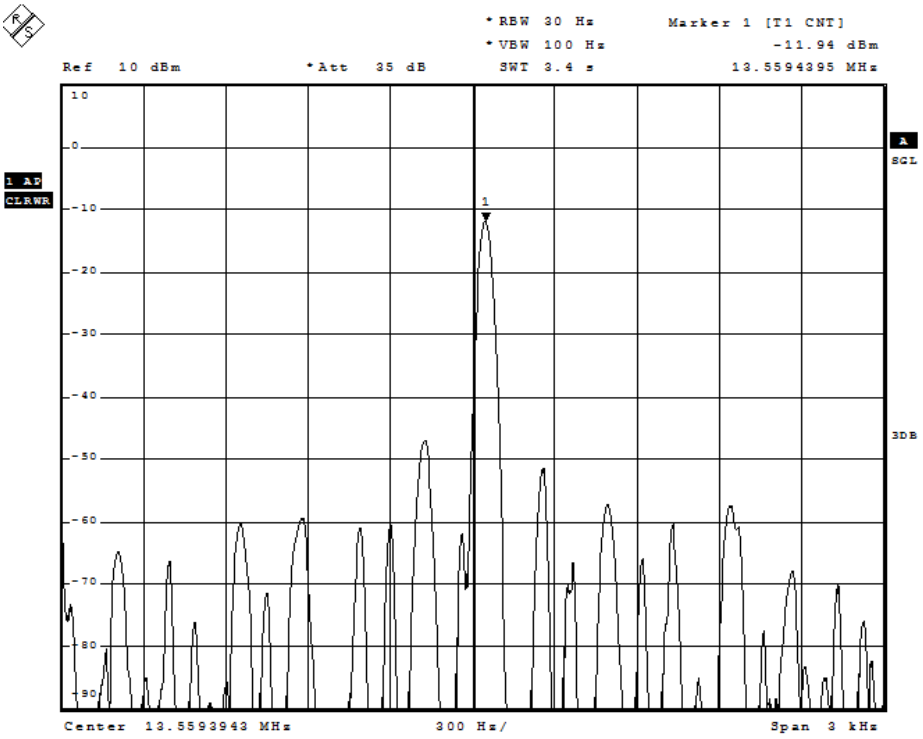
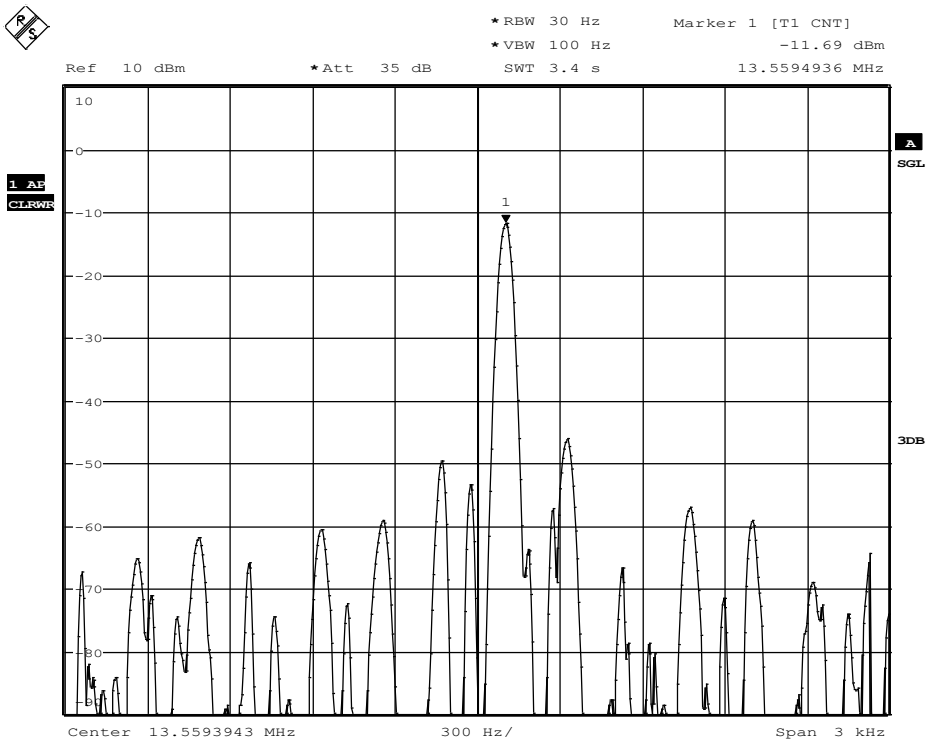


On 10Minutes after TX-Start Up

Frequency Error for T=0°C | Vnom=5.0 V DC | TX Full Power Mode (200 mW)

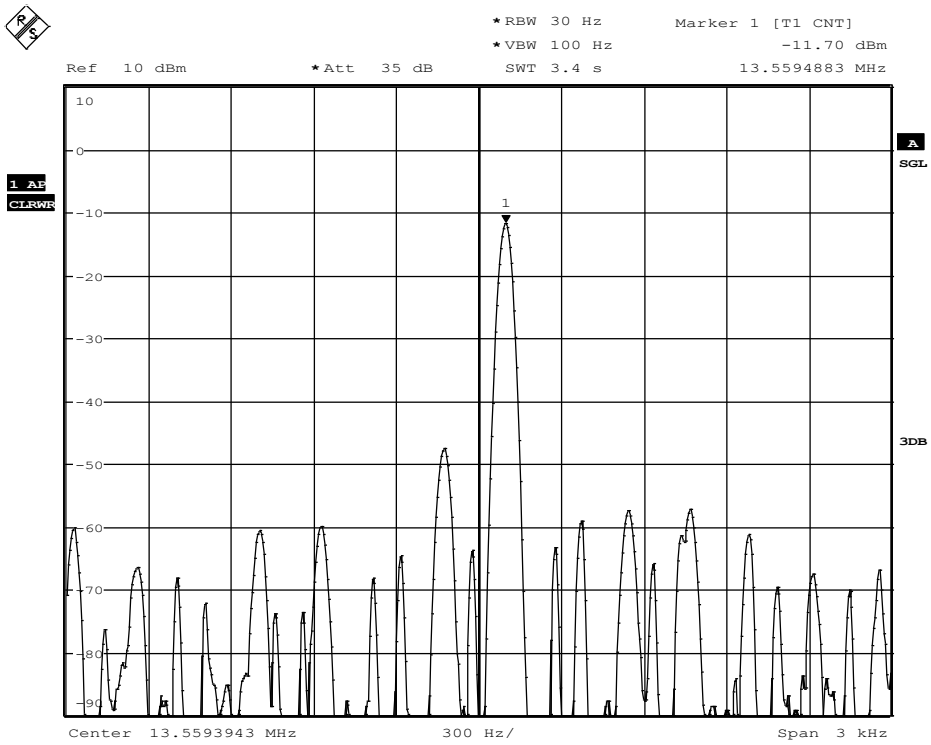


On TX-Start Up



On 2Minutes after TX-Start Up

Frequency Error for T=0°C | Vnom=5.0 V DC | TX Full Power Mode (200 mW)



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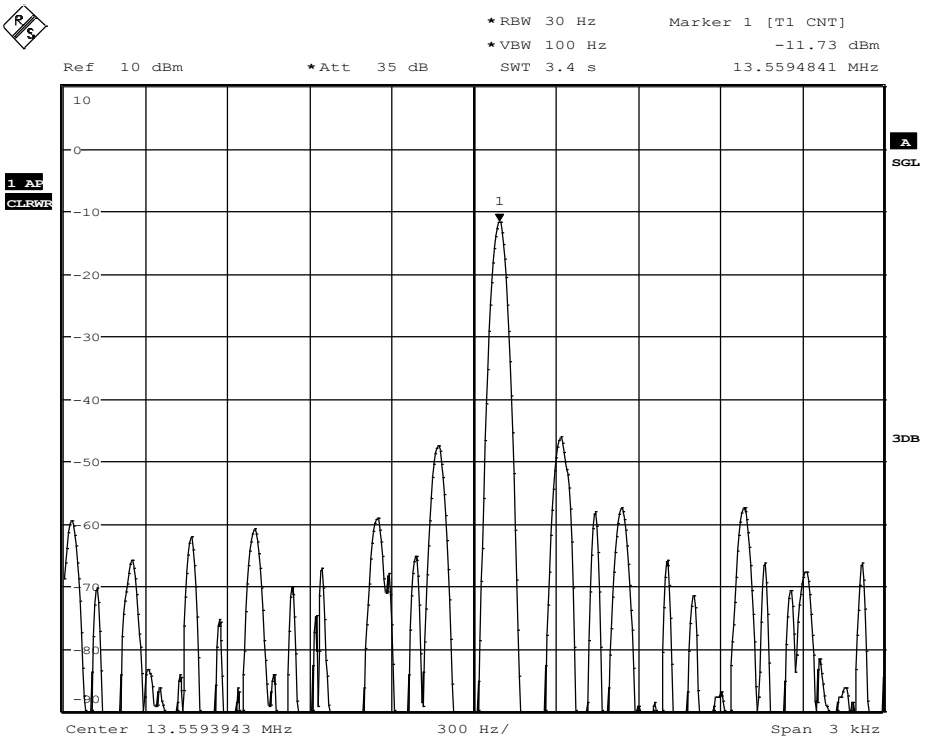
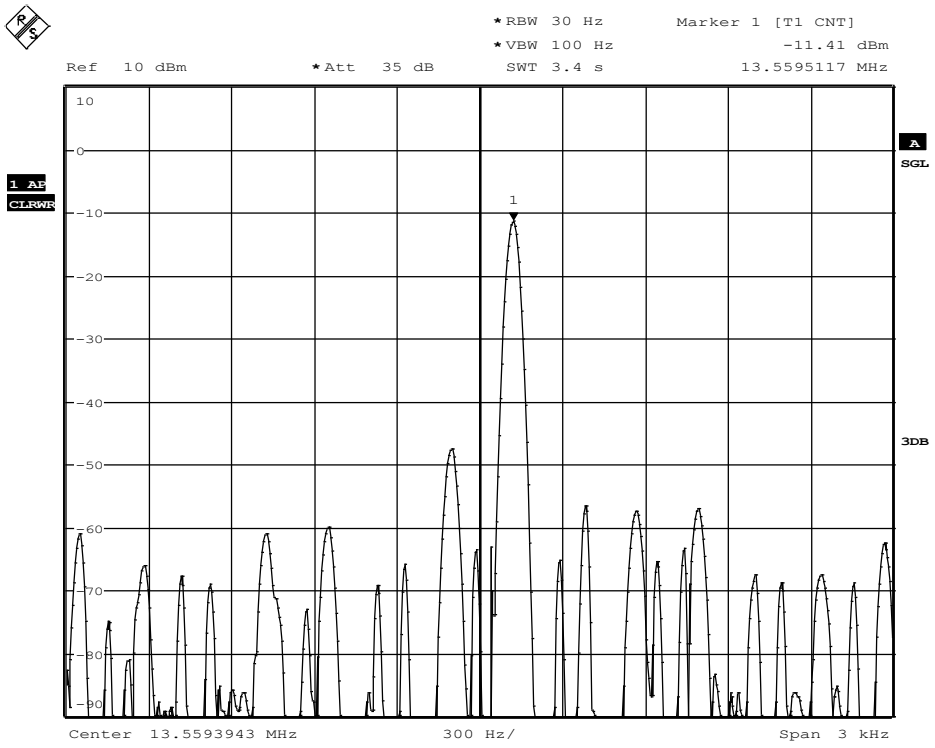
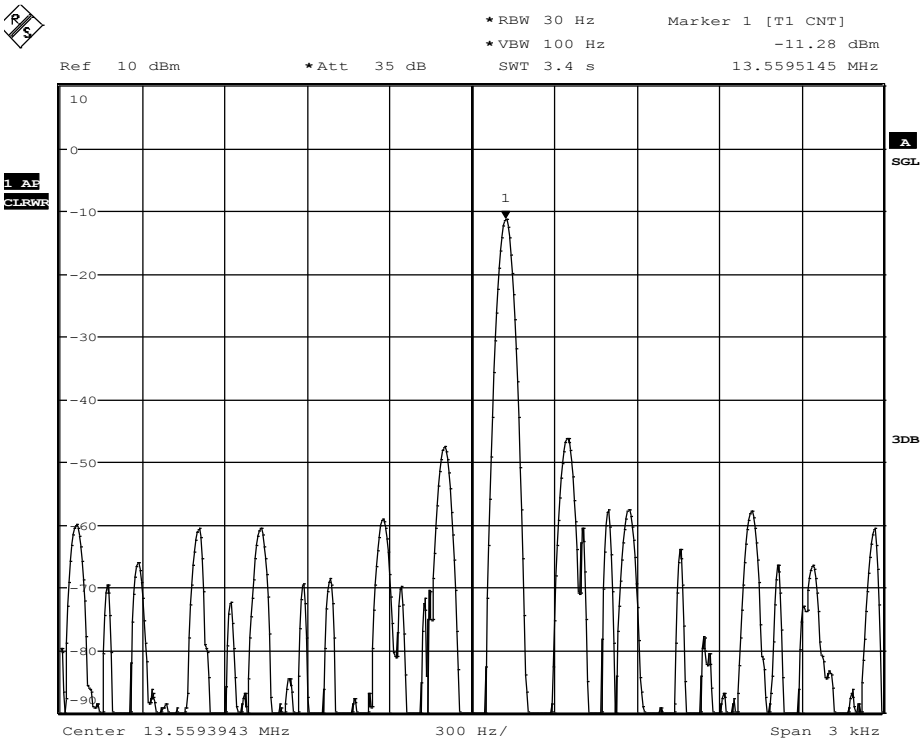


On 10Minutes after TX-Start Up

Frequency Error for T=-10°C | Vnom=5.0 V DC | TX Full Power Mode (200 mW)

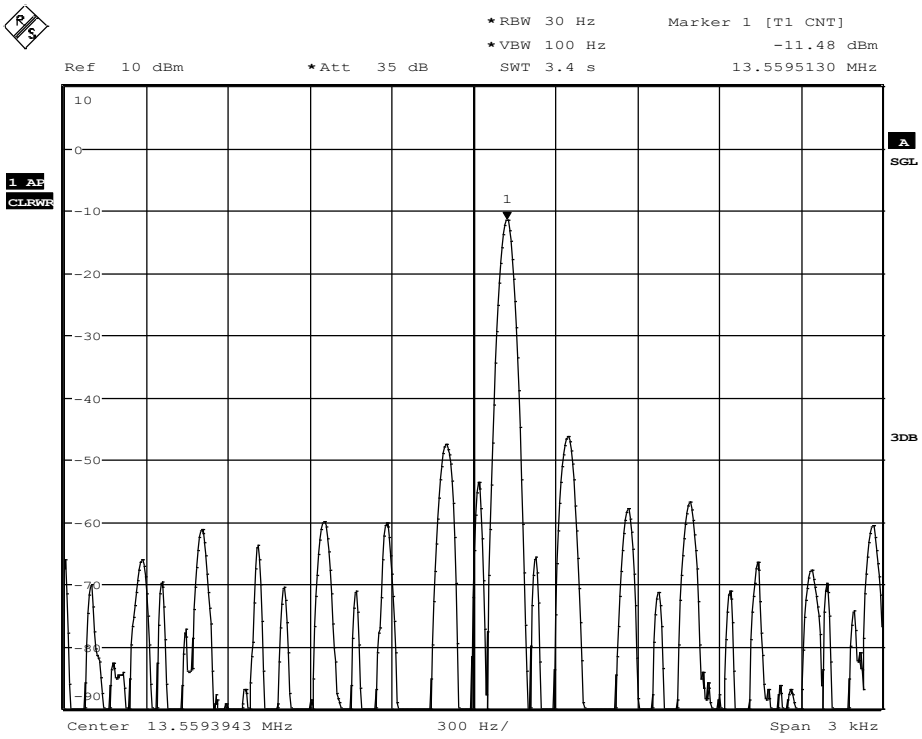


On TX-Start Up

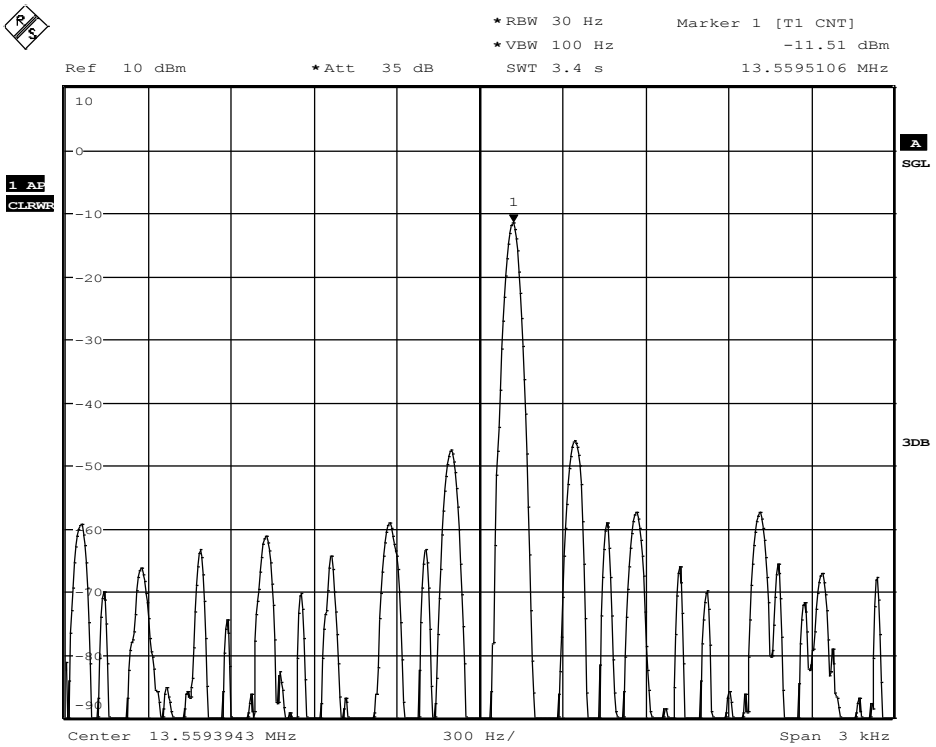


On 2Minutes after TX-Start Up

Frequency Error for T=-10°C | Vnom=5.0 V DC | TX Full Power Mode (200 mW)

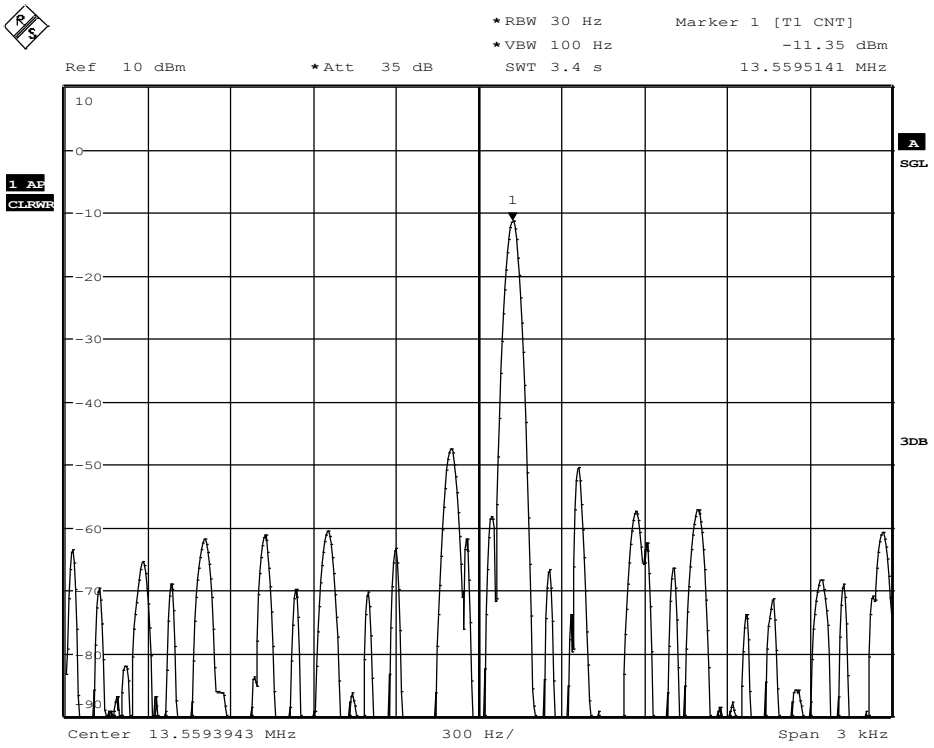


On 5Minutes after TX-Start Up

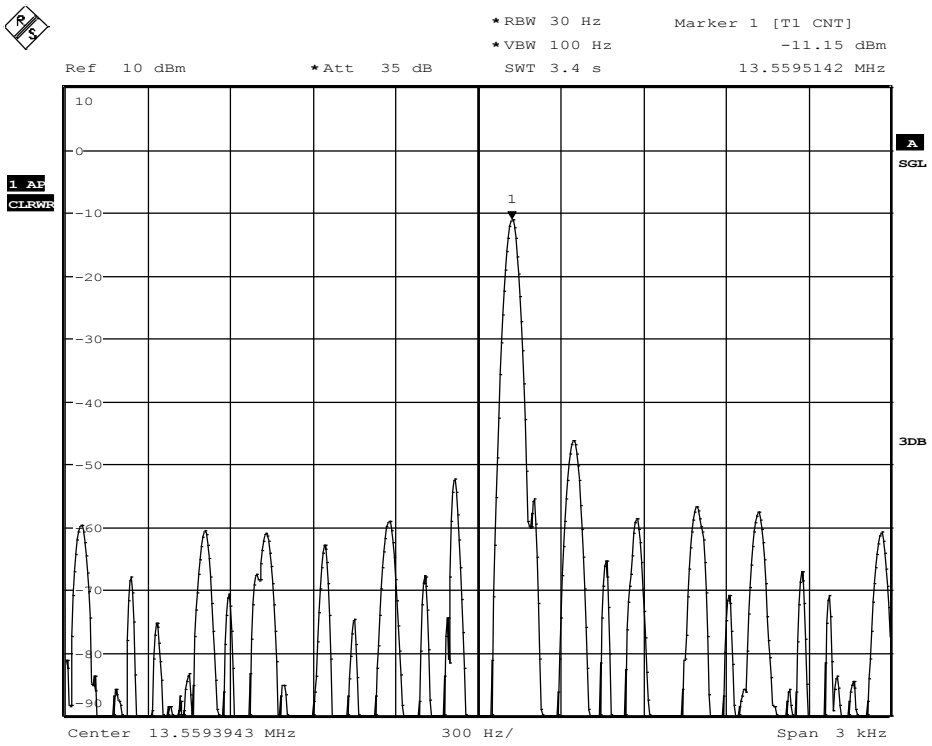


On 10Minutes after TX-Start Up

Frequency Error for T=-20°C | Vnom=5.0 V DC | TX Full Power Mode (200 mW)

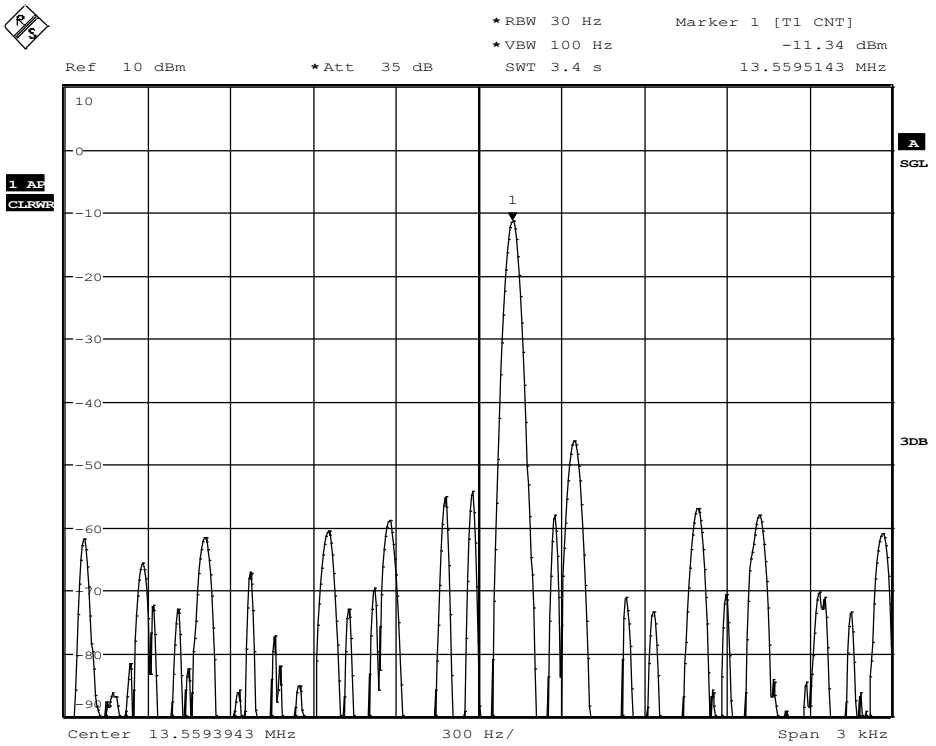


On TX-Start Up

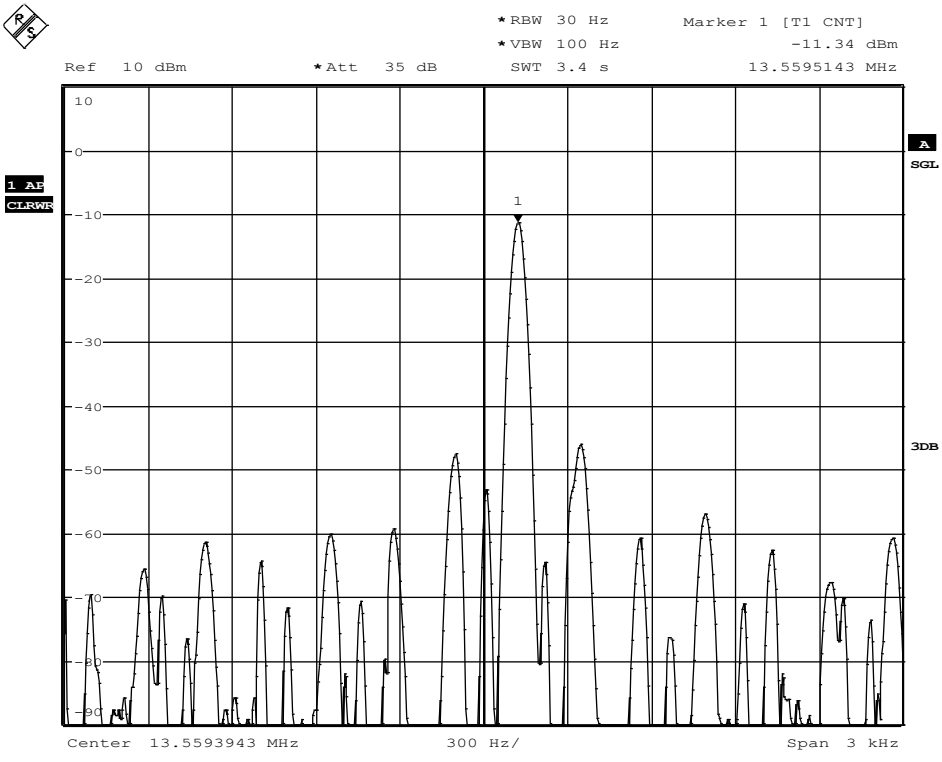


On 2Minutes after TX-Start Up

Frequency Error for T=-20°C | Vnom=5.0 V DC | TX Full Power Mode (200 mW)

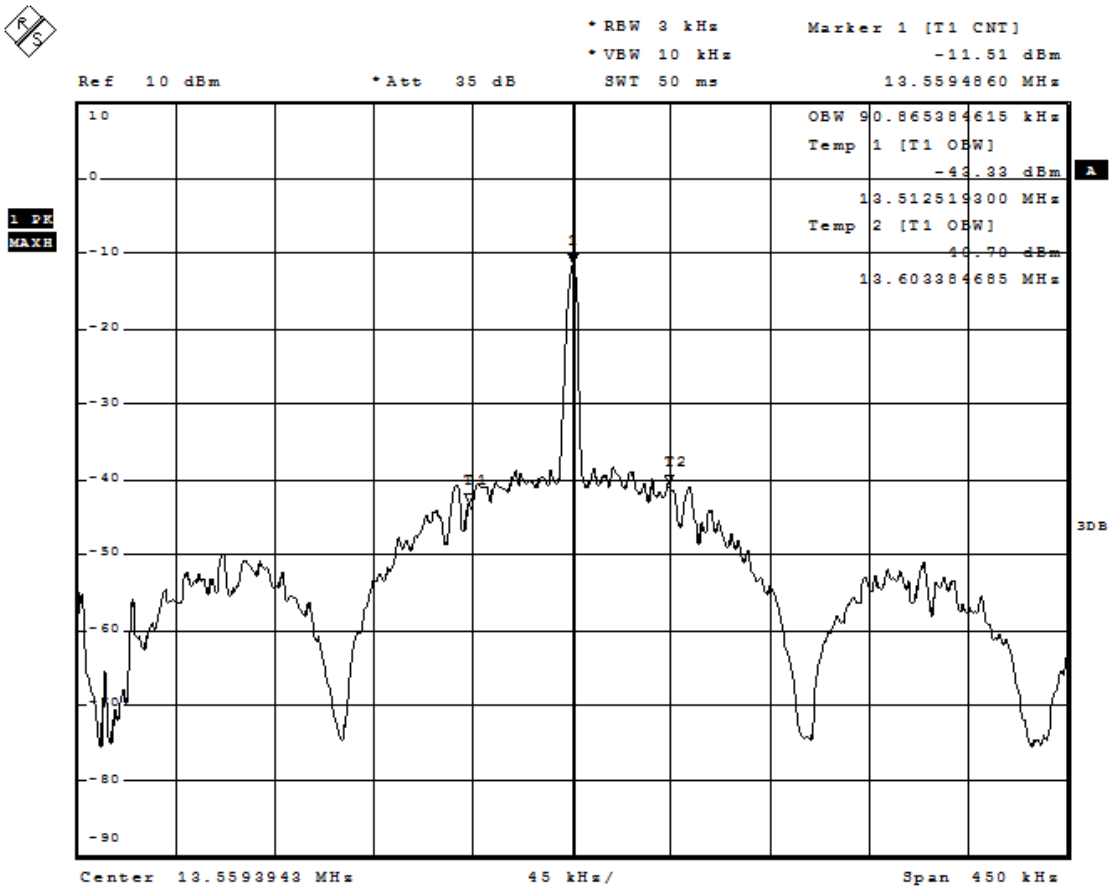


On 5Minutes after TX-Start Up



On 10Minutes after TX-Start Up

3. 99 % Occupied Bandwidth



99% Occupied Bandwidth TX Full Power Mode (200 mW) | EUT A + AE 1