Appendix A

RF Test Data for RFID(902-928MHz Hopping Device)

(Conducted Measurement)

Product Name: RFID Reader

Trade Mark: BALLUFF

Test Model: BF-IDU05

FCC ID: 2AGZY-BFIDU05

IC: 20739-BFIDU05

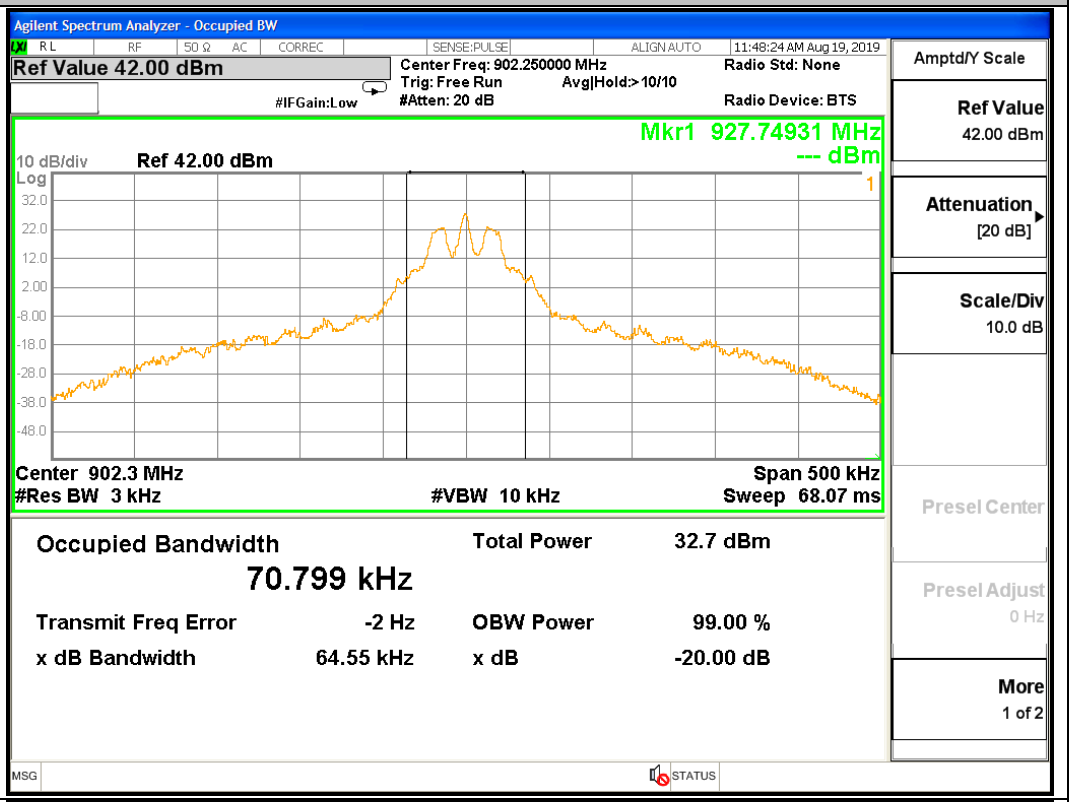
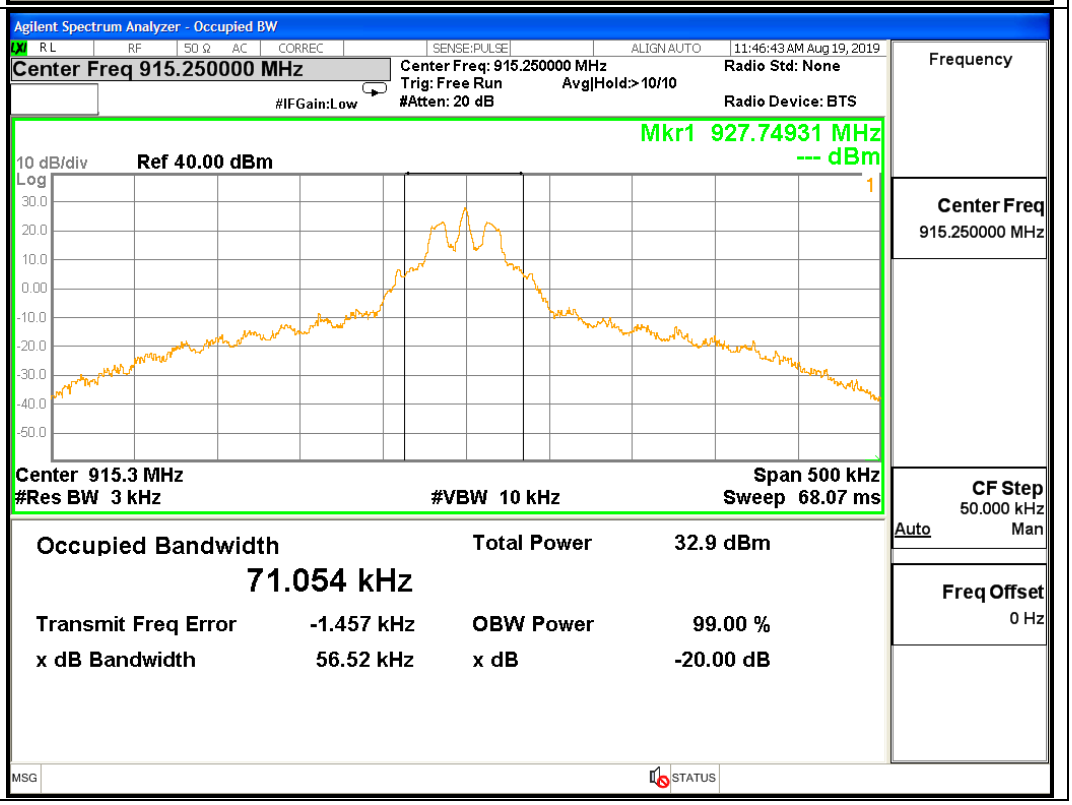
Environmental Conditions

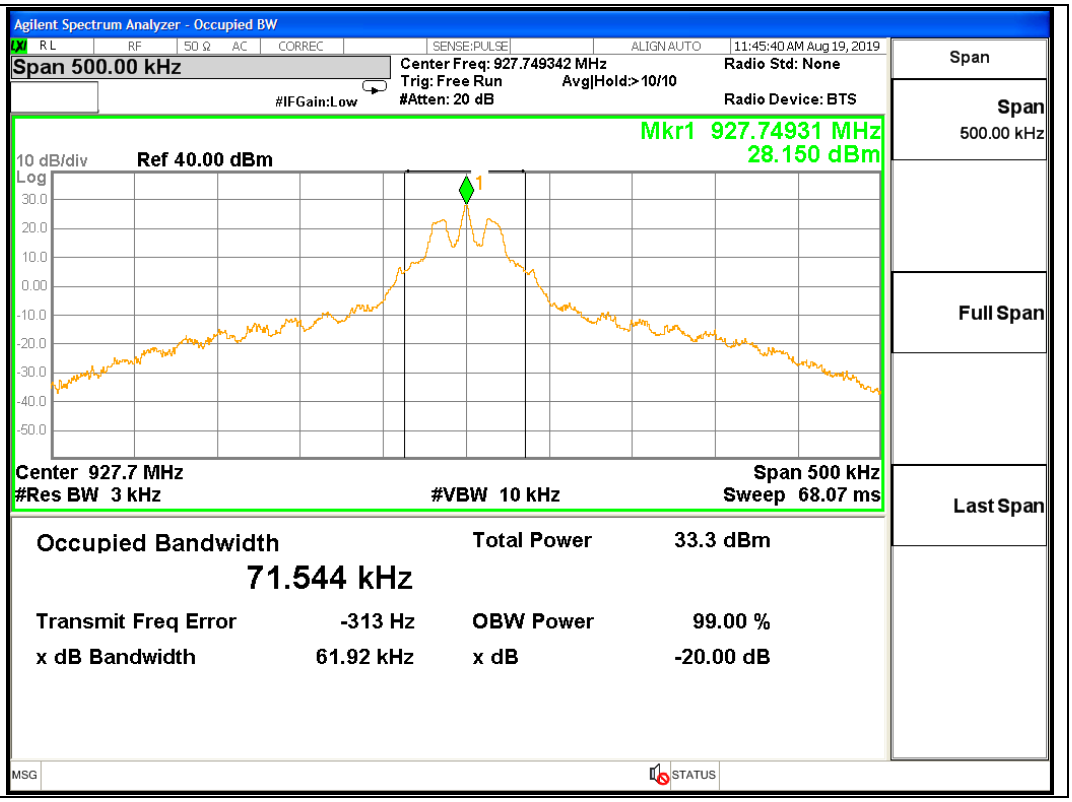
Temperature:	28.1℃
Relative Humidity:	58%
ATM Pressure:	100.0 kPa
Test Engineer:	Gary Qian
Supervised by:	Eden Hu

A.1 20 dB Bandwidth and 99% Occupied Bandwidth

Mode	Channel.	20dB Bandwidth [KHz]	99% Occupied Bandwidth [KHz]	Limit(MHz)	Verdict
PR-ASK	LCH	64.55	70.80	Not Specified	PASS
PR-ASK	MCH	56.52	71.05	Not Specified	PASS
PR-ASK	HCH	61.92	71.54	Not Specified	PASS

Test Graph

Graphs	
PR-ASK/LCH	
PR-ASK/MCH	

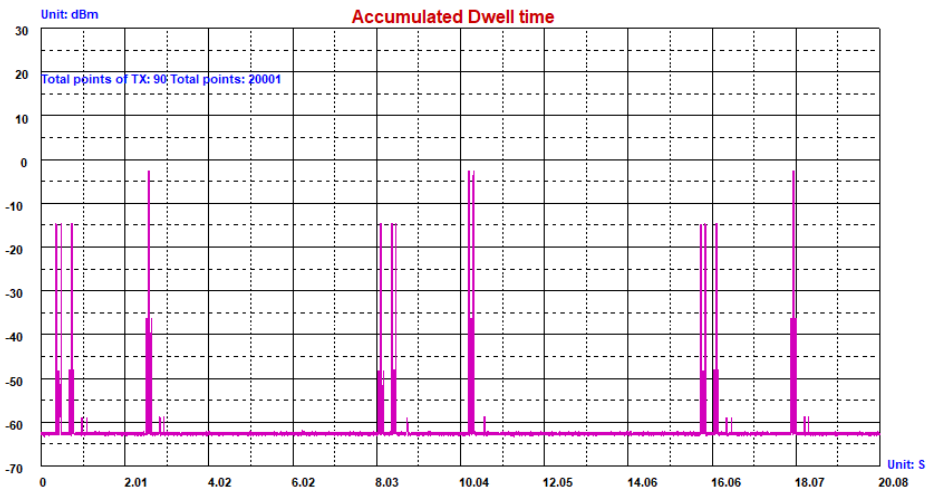
PR-ASK/HCH	

Agilent Spectrum Analyzer - Occupied BW
RL
RF
50 Ω
AC
CORREC
SENSE:PULSE
ALIGN AUTO
11:45:40 AM Aug 19, 2019
Span 500.00 kHz
Center Freq: 927.749342 MHz
Trig: Free Run
Avg|Hold:>10/10
#IFGain:Low
#Atten: 20 dB
Radio Std: None
Radio Device: BTS
Mkr1 927.74931 MHz
28.150 dBm
10 dB/div
Log
Ref 40.00 dBm
30.0
20.0
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
Center 927.7 MHz
#Res BW 3 kHz
#VBW 10 kHz
Span 500 kHz
Sweep 68.07 ms
Occupied Bandwidth
71.544 kHz
Total Power 33.3 dBm
Transmit Freq Error -313 Hz
OBW Power 99.00 %
x dB Bandwidth 61.92 kHz
x dB -20.00 dB
MSG
STATUS
Span
Span
500.00 kHz
Full Span
Last Span

A.2 Dwell Time

Mode	Channel	TX_{on} Points	Total Points	Dwell Time[s]	Limit [s]	Verdict
PR-ASK	MCH	90	20001	0.09	0.4	PASS

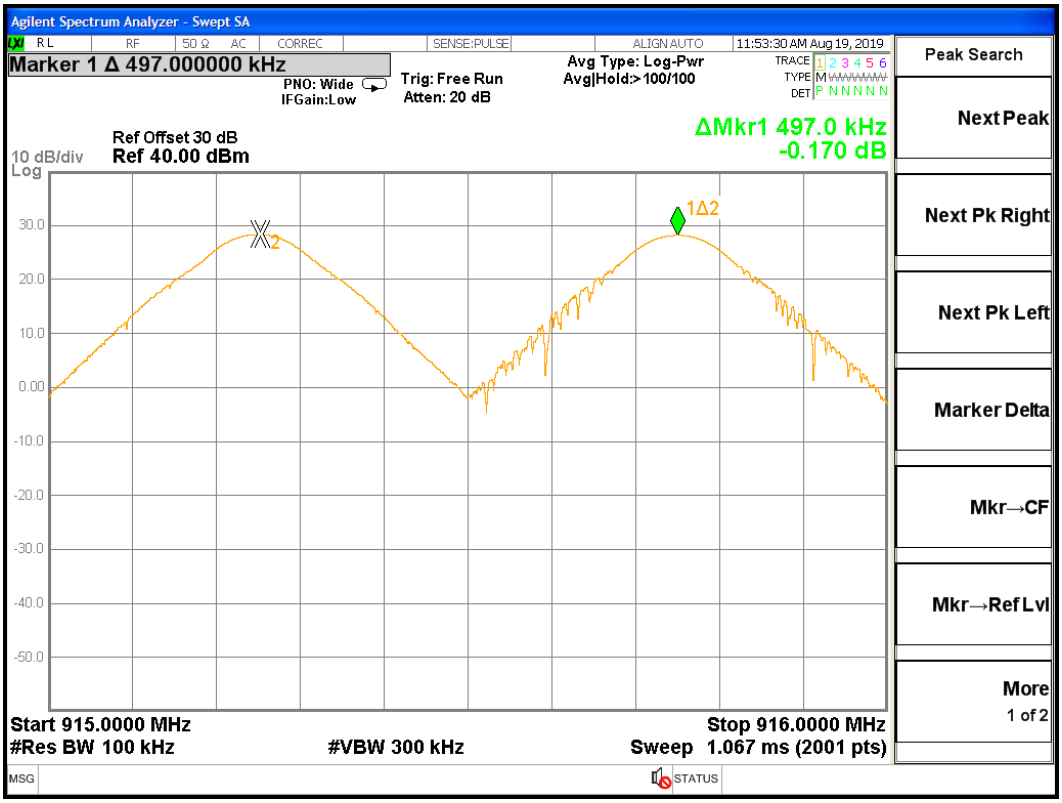
Test Graph

Graphs	
PR-ASK_PR-ASK/MCH	

A.3 Carrier Frequency Separation

Mode	Channel.	Carrier Frequency Separation [KHz]	Limit [KHz]	Verdict
PR-ASK	MCH	497	64.55	PASS

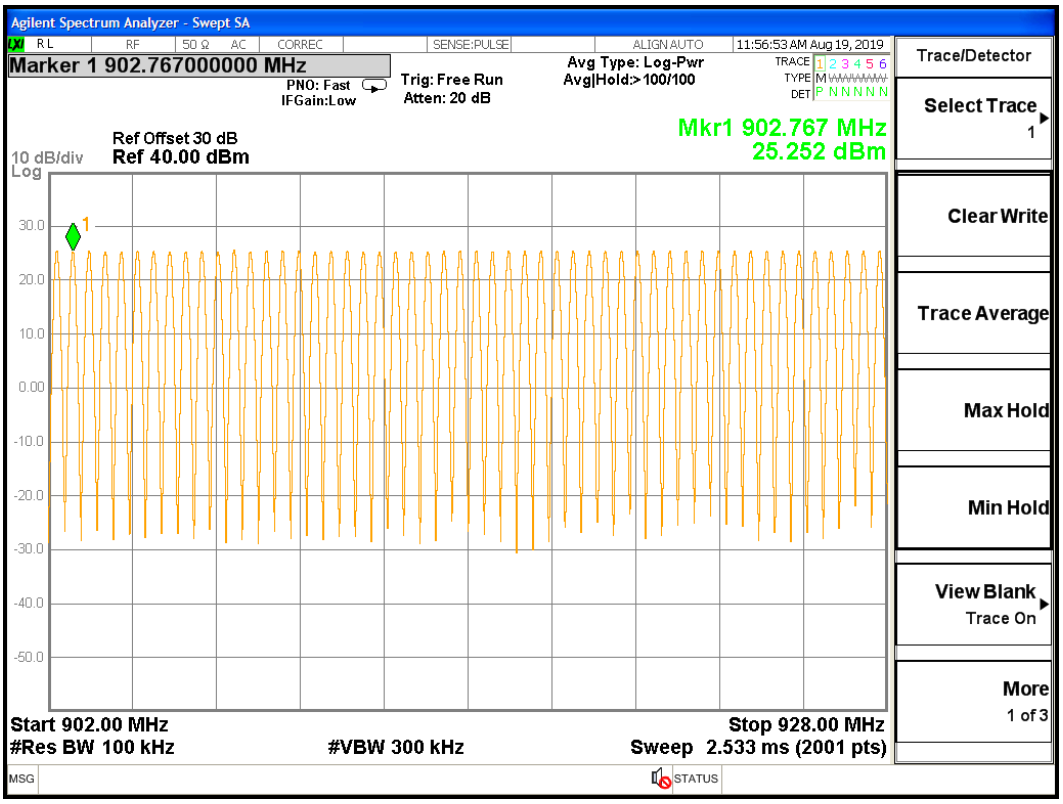
Test Graph

Graphs	
PR-ASK/MCH	

A.4 Hopping Channel Number

Mode	Channel.	Number of Hopping Channel[N]	Limit[N]	Verdict
PR-ASK	Hop	52	>=15	PASS

Test Graph

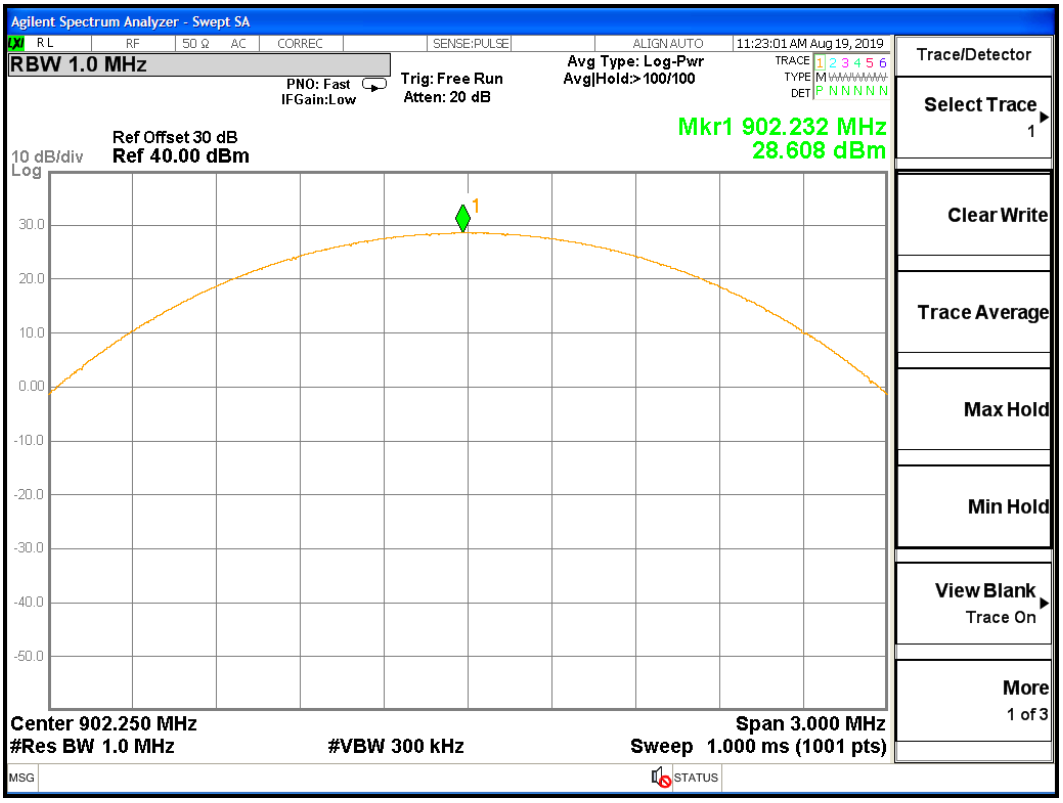
Graphs	
PR-ASK/Hop	

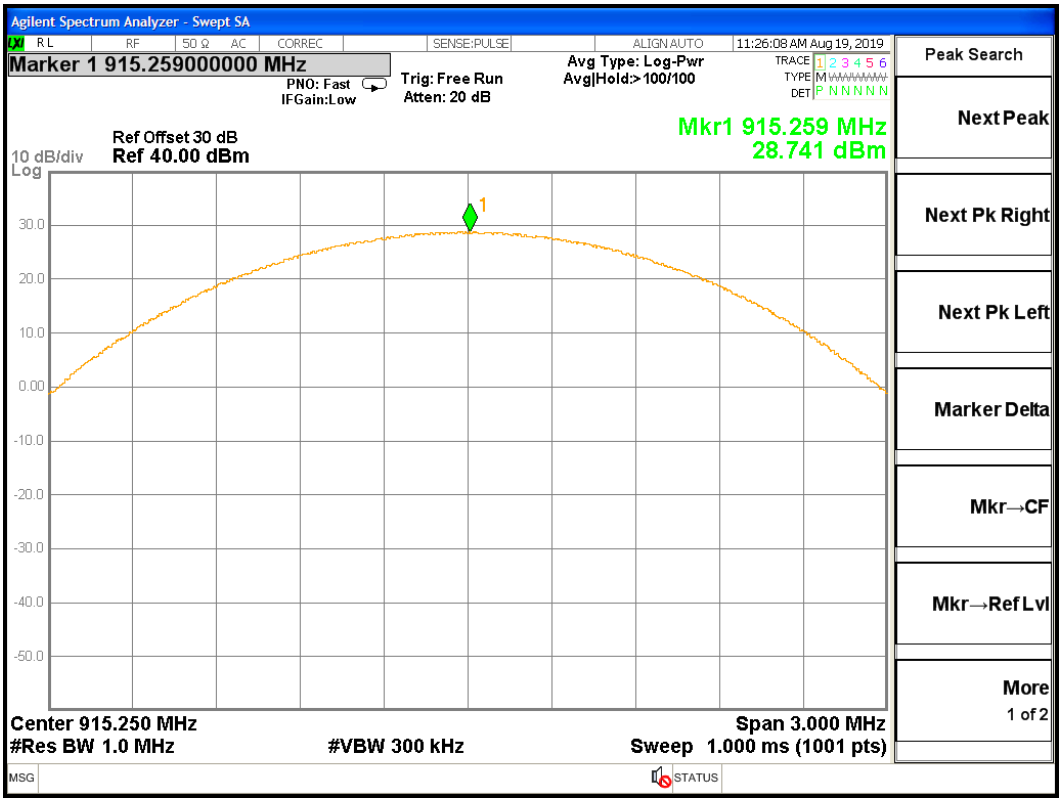
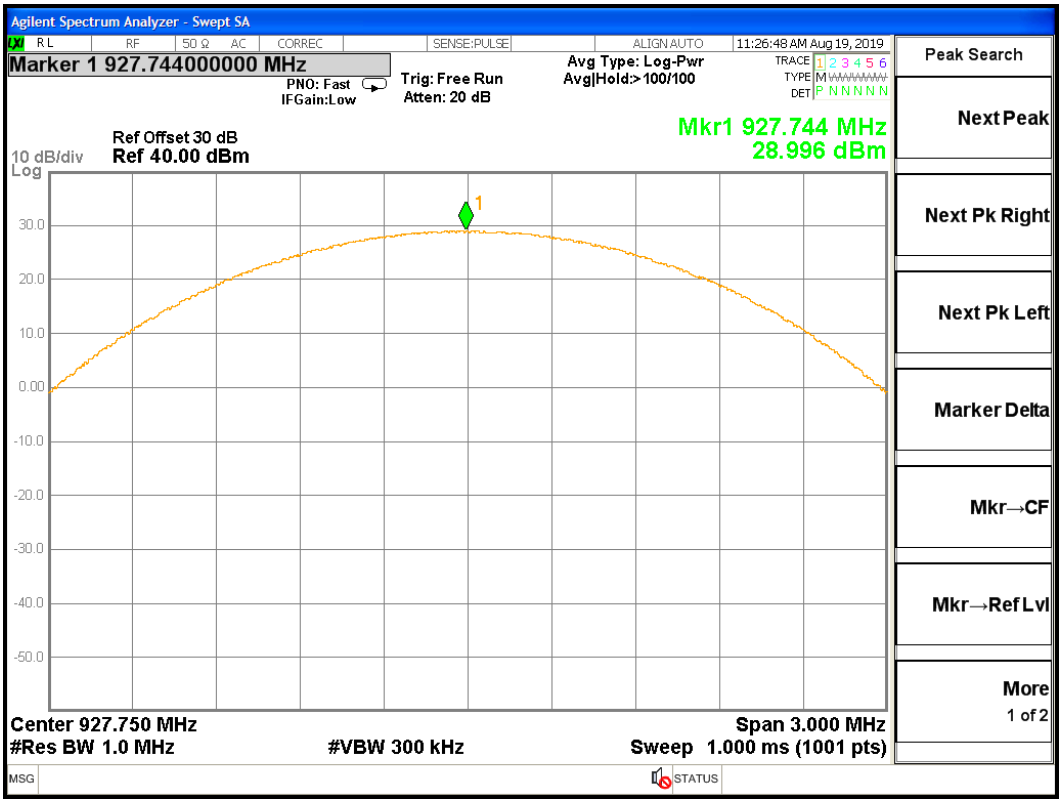
A.5 Conducted Peak Output Power

Mode	Channel.	Reading Value [dBm]	Limit [dBm]	Verdict
PR-ASK	LCH	28.61	30	PASS
PR-ASK	MCH	28.74	30	PASS
PR-ASK	HCH	29.00	30	PASS

Note 1: limit = 30 – Max(Antenna gain(dBi), 6) + 6

Test Graph

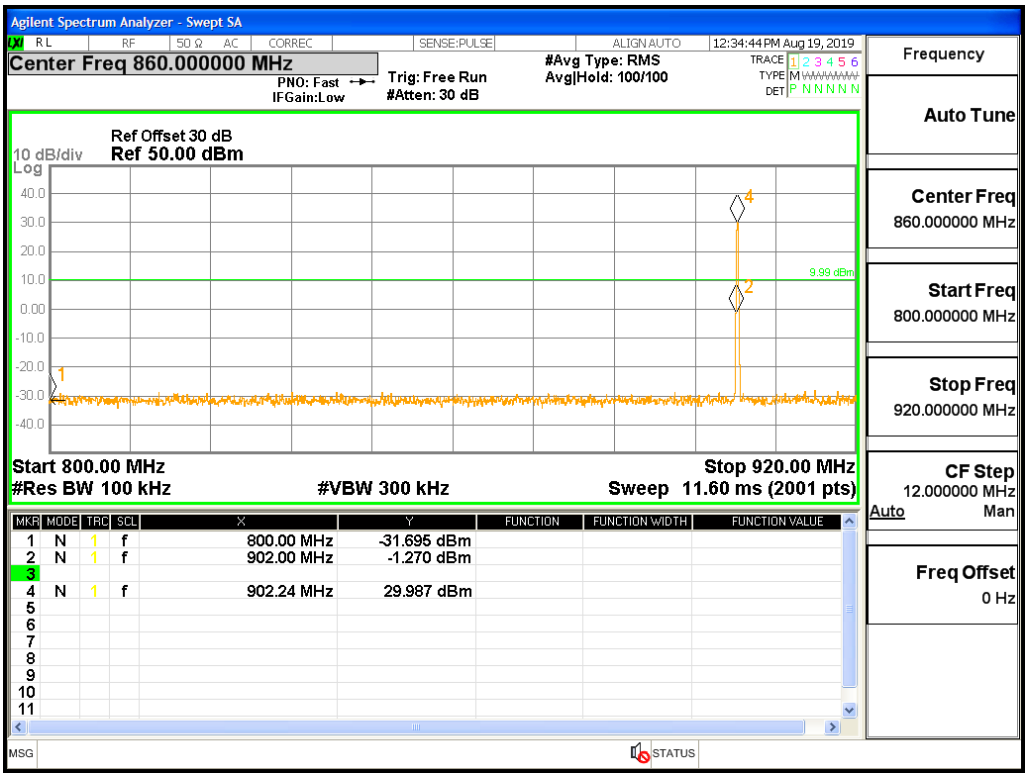
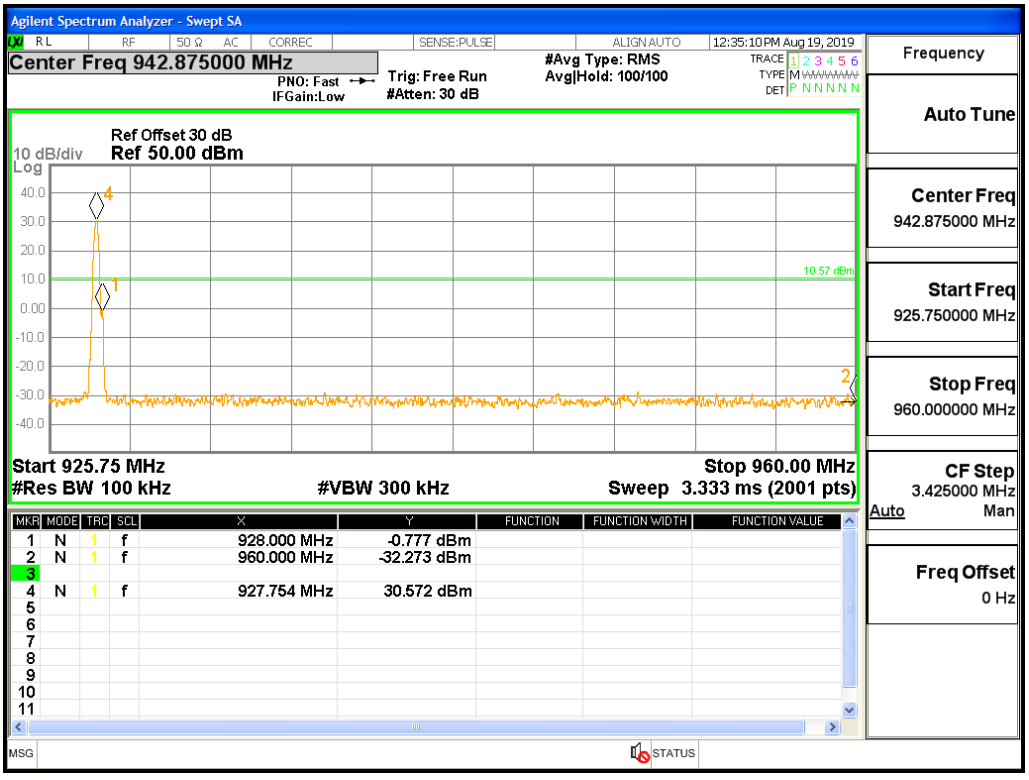
Graphs	
PR-ASK/LCH	

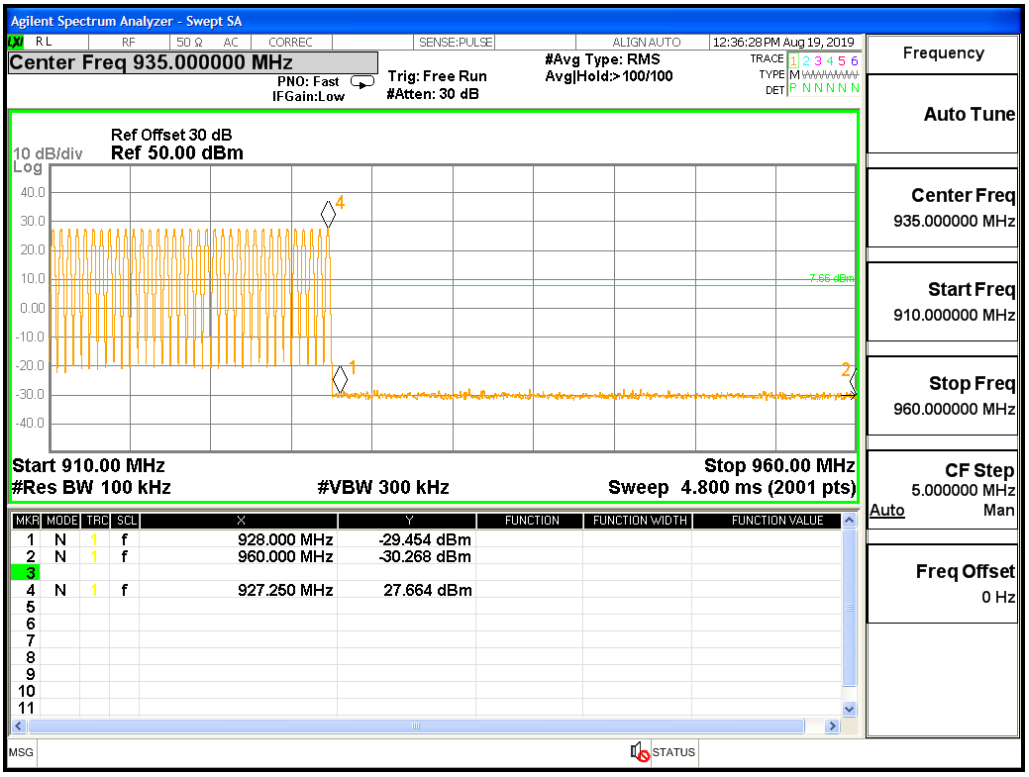
PR-ASK/MCH	
PR-ASK/HCH	

A.6 Band-edge for RF Conducted Emissions

Type	Carrier Frequency(MHz)	Frequency(MHz)	Carrier Frequency Power [dBm]	Bandedge Peak(dBm)	Upper limit(dBm)	Conclusion
PR-ASK	LCH	902	29.987	-1.27	9.987	Pass
PR-ASK	LCH	800	29.987	-31.70	9.987	Pass
PR-ASK	HCH	928	30.572	-0.78	10.572	Pass
PR-ASK	LCH	960	30.572	-32.27	10.572	Pass
PR-ASK	Hopping	902	27.374	-30.36	7.374	Pass
PR-ASK	Hopping	800	27.374	-29.59	7.374	Pass
PR-ASK	Hopping	928	27.664	-29.45	7.664	Pass
PR-ASK	Hopping	960	27.664	-30.27	7.664	Pass

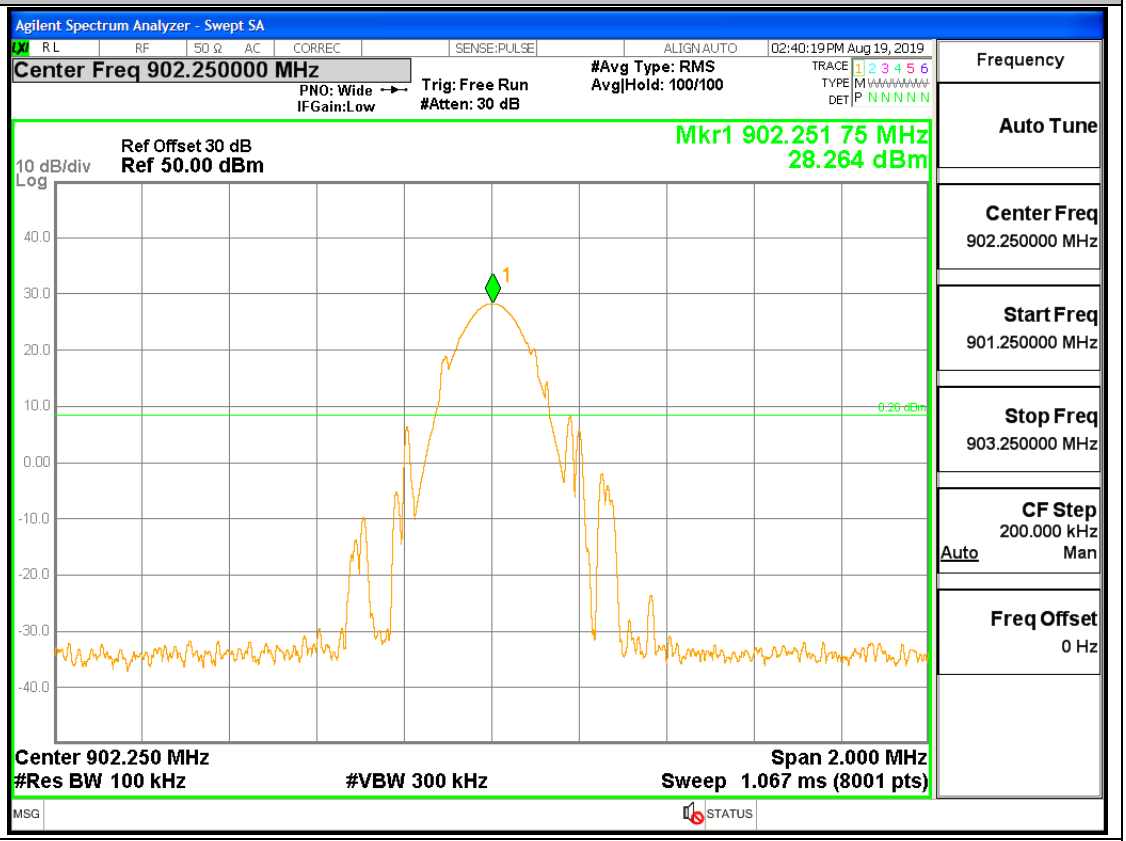
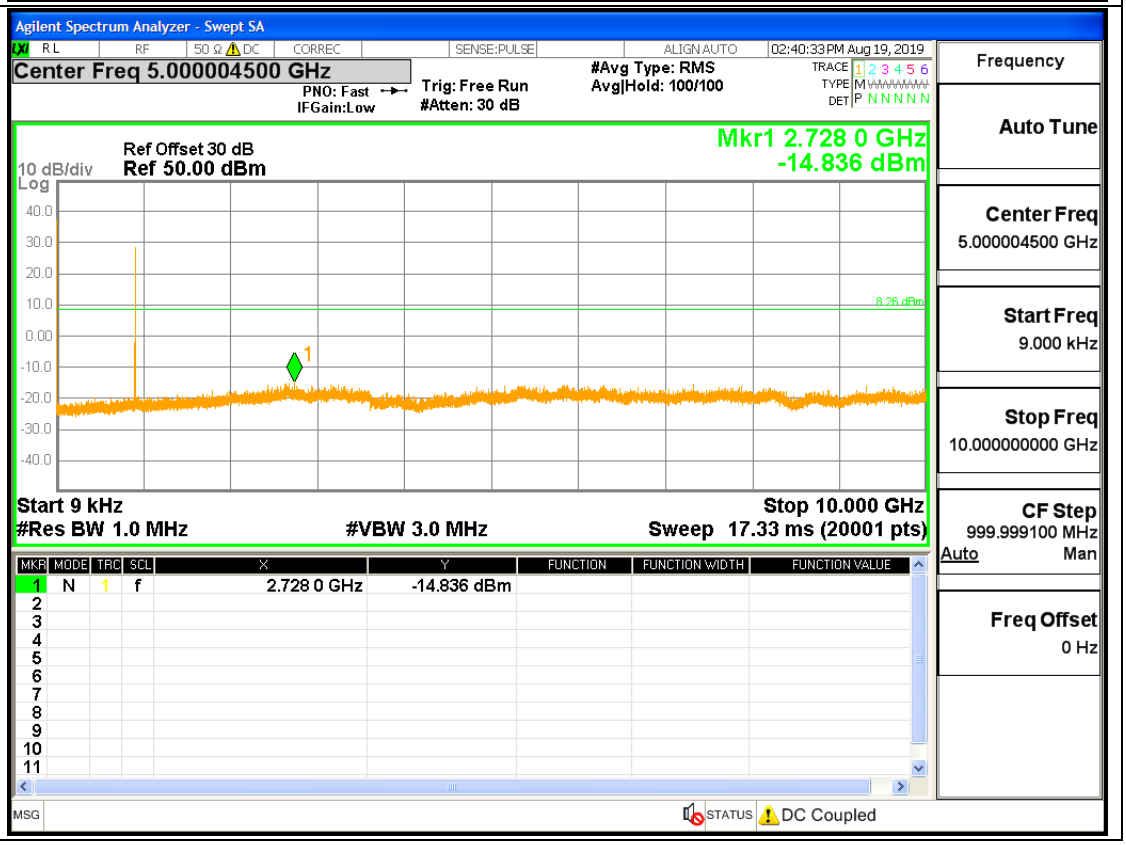
Test Graph

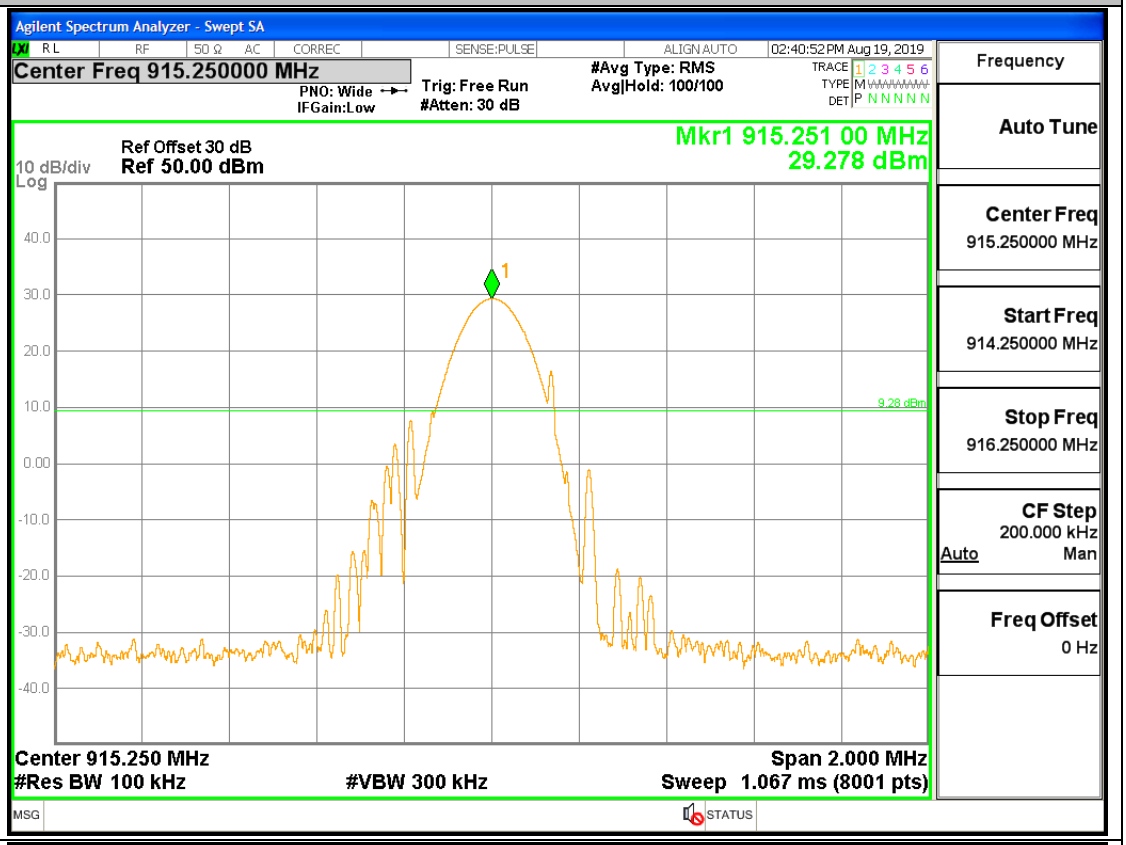
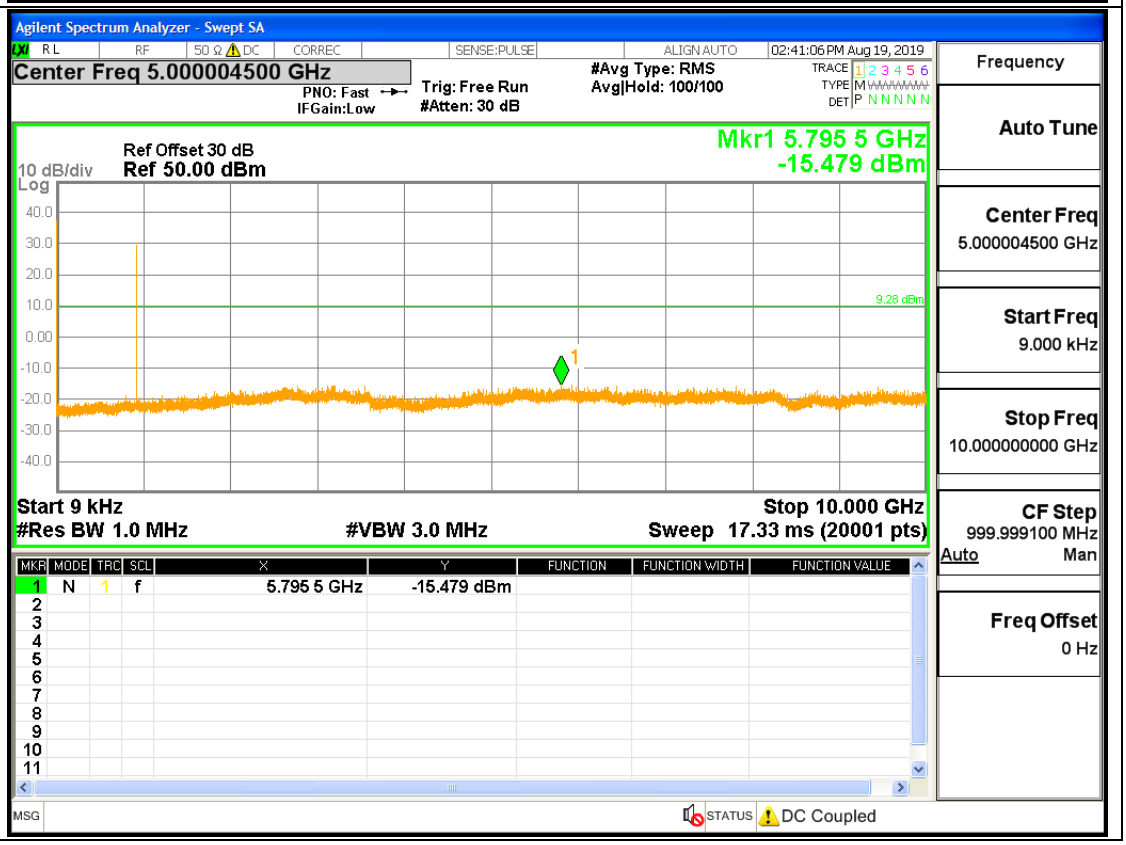
Graphs	
PR-ASK/LCH/No Hop	
PR-ASK/HCH/No Hop	

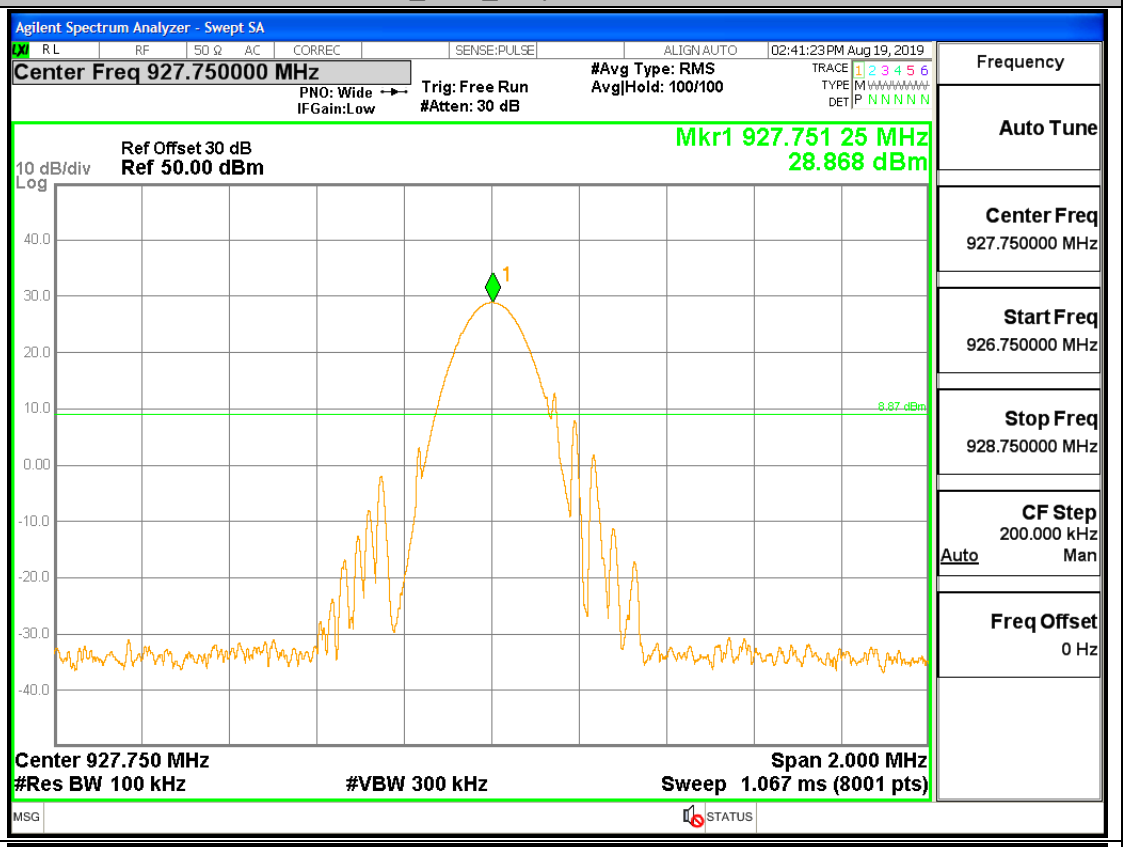
PR-ASK/LCH/Hop	
PR-ASK/HCH/Hop	

A.7 RF Conducted Spurious Emissions

Test Graph

PR-ASK_LCH_Graphs	
Pref	
Puw	

PR-ASK_MCH_Graphs	
Pref	
Puw	

PR-ASK_HCH_Graphs	
Pref	
Puw